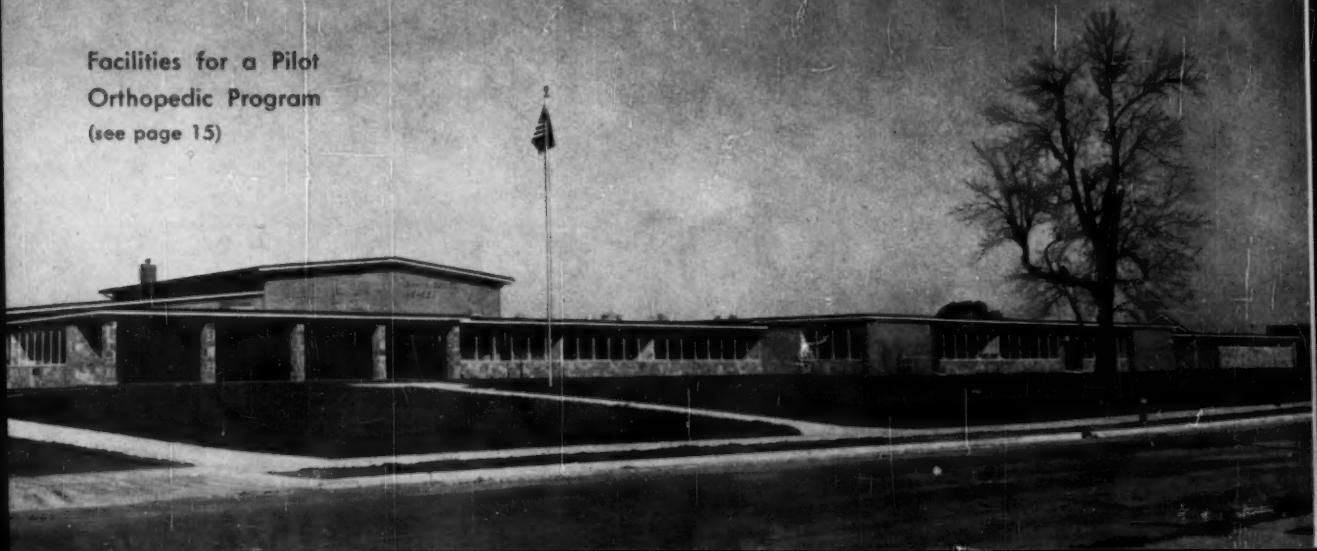


the
**AMERICAN
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(see page 15)





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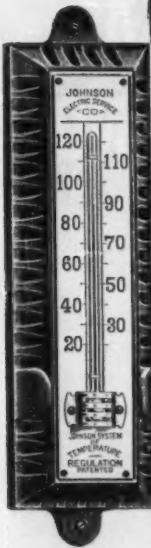
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THE AMERICAN SCHOOL BOARD JOURNAL,
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Mark in the United States Patent Office. Second
class postage paid at the Post Office at Milwaukee,
Wis., under the Act of March 3, 1879. Published on
the 25th of the month preceding the date of
issue by The Bruce Publishing Co., 400 N. Broad-
way, Milwaukee 1, Wis. (The Bruce Publishing
Company founded in 1891 at Milwaukee, Wisconsin,
with branch offices in New York and Chicago,
is in no way identified with Bruce Publishing Co.
of St. Paul, Minn.)

SUBSCRIPTIONS. In the United States, Posses-
sions, and Canada, \$4.50 a year, payable in advance.
Two-year subscriptions will be accepted at \$7.00.
In all foreign countries, \$5.50, two years at \$9.00.
Single copies, 75 cents. When you have a change
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July to December, 1960,
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140 of The School Board
Journal.

OUR COVER

A review (pg. 15) of a model school
for a physically handicapped stu-
dent program combined with facil-
ties for regular elementary instruc-
tion deserves your attention if you're
considering such a school plant.

Mr. Stanley Buchacz, President of Justice
School District No. 109, Justice, Illinois, says:

**"Our school is well
against both**



Mr. Stanley Buchacz in one of the classrooms in Justice Elementary School. Automatic detectors in the classroom will detect fire without fail and immediately ring alarms in the building and at the fire station.

protected fire and vandalism"



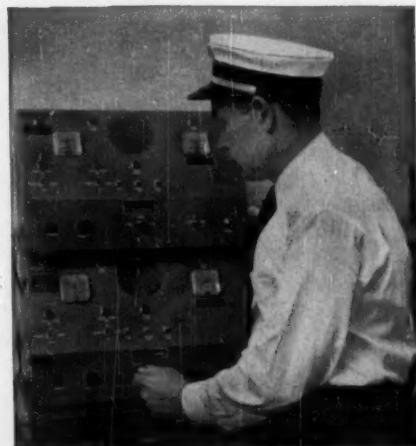
Justice Elementary School is protected by a Honeywell Central Security System that automatically detects fire or intrusion and sounds an alarm at fire and police headquarters.

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YEAR
PIONEERING THE FUTURE

DECEMBER, 1960

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5

Surveying the School Scene

TEACHERS' STRIKE ENDS

The United Federation of Teachers in New York called off a two-day strike of some 4600 teachers (of the almost 40,000 in the district) after a meeting on Nov. 8. The teachers voted to go back to work and submit their grievances to the board of education. Superintendent John J. Theobald revoked an earlier penalty of suspension of every striking teacher. While the strike did not close a single school, it did disrupt the nation's largest school system "considerably."

BIBLE READING

The U. S. Supreme Court on October 24 sent back to the lower courts a dispute over Bible reading in public schools. The controversy began when Roslyn, Pa., parents objected to a Pennsylvania law that required teachers to read ten verses from the Bible each morning to their students. They said some portions of the Bible conflicted with their beliefs. Three Philadelphia district judges had ruled that the state law was unconstitutional, whereupon the legislature changed it to remove the compulsory feature.

The Supreme Court action has vacated the district court ruling and sent the case back to the lower court for another look.

SCIENCE, MATH STUDENTS INCREASE

The U. S. Office of Education, in its

report for September 30, has reported that the number of juniors in colleges and universities majoring in science or mathematics increased 2.7 per cent, from 55,777 to 57,265 between 1958 and 1959. The number of juniors in all fields of study increased from 390,000 in 1957 to 405,000 in 1958, and 409,000 in 1959. This was a jump of 3.8 per cent from 1957 to 1958, and 1.0 per cent from 1958 to 1959. The number of juniors majoring in mathematics rose 54 per cent over the two-year period 1957 to 1959. At the same time there was an increase of 14.9 per cent for students majoring in physics, and an increase of 23 per cent for those in physical sciences.

NEW FIRE-PREVENTION CODE

The National Board of Fire Underwriters, Boston, Mass., has announced a revised fire-prevention code, which incorporates changes and additions to bring it up to date. The new edition is a compilation of 181 standards developed by NFPA in the fields of flammable liquids and gases, combustible solids, dusts, chemicals, and explosives; building construction and equipment; extinguishing equipment; electrical installations; mobile fire equipment; transportation; and management. The new material includes 42 new or revised fire-safety standards adopted at the 1960 meeting of the association. The code prescribes regulations governing conditions hazardous to life and property and provides a suggestive ordinance under which a city may adopt a fire code.

NORTH CAROLINA ETV REBROADCAST NETWORK

A recent study by Adler electronics describes an economical method for extending the coverage of WUNC-TV, the University of North Carolina's ETV station, to major communities in the western part of the state.

The network is based on the use of modern low-cost circuits and techniques which have been developed in the laboratory and proven after years of testing in the field. Its function is to relay and rebroadcast the Educational Television Signal transmitted from Chapel Hill.

The Heterodyne Repeater principle of TV rebroadcasting is followed, in which the TV signal, as it goes along the relay chain, merely undergoes frequency conversion at each transmitting point, that is, the sound and picture information is not extracted or separated from the carriers, but only the frequency of the carriers is changed.

The various translator stations which make up the Educational Television Network proposed for western North Carolina will, primarily, make ETV signals available over the communities in their service area and, in addition, make them available at the same time and with no duplication of equipment for rebroadcasting and further relaying from the next station.

FREE TIME FOR TEACHERS' LUNCH

In Felton, Calif., a pilot program at the Boulder Creek elementary school to provide noon supervision by classified personnel has been put in operation by the school board. The lunch hour has been reduced to 45 minutes. To give teachers a

(Continued on page 42)



Ironbound® Continuous Strip® Maple Floor in Mishawaka High School, Mishawaka, Ind. Arch: Paul F. Jernegan, Mishawaka. General Contr: Peter Schumacher & Sons, Mishawaka. Installer: Central States Flooring Co., Inc., South Bend.

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DECEMBER, 1960

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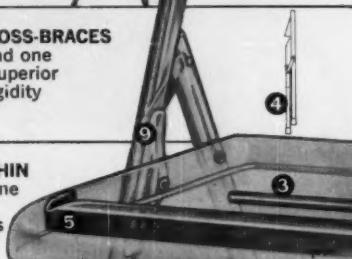
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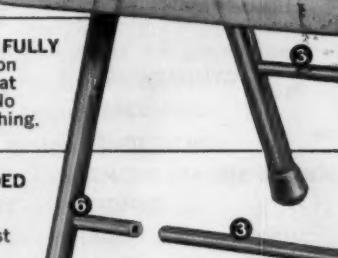
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December, 1960

A School District and City Government

The American plan of government places great faith in local control and the retention of the right and responsibility to prove certain public needs through local units of government. In urban America burgeoning public needs are placing extraordinary requirements upon all types of local governments, to the point in many cases of almost destroying the capacity of citizens to meet these demands. One unit of local government is frequently in competition with other units of local government, not only for financial support but for the support of public opinion. The local school district is inextricably interwoven into the fabric of local government and finds itself caught up in an intense struggle — sometimes to the point of survival.

This article attempts to describe the current status of local governments in the metropolitan setting, to review the relevance of economic, social, and governmental factors to school district organization, and to suggest some foci for local board of education members and school administrators in the study of the issues involved in this problem.

One of the most disturbing problems facing local boards and school superintendents in metropolitan areas is the difficulties encountered in making reasonably accurate predictions about the future growth and development of the area which these officials serve. A crucial series of local policy decisions are predicated upon judgments which must be made about population and financial expansion. The adequacy of these judgments is

frequently dependent upon the actions of other units of local government which exist within, overlap, are coterminous with, or bound local school districts.

"Twilight" Zone!

A few months ago the writer was riding with a local superintendent through his rapidly growing suburban school district. As they drove along, he pointed out subdivision after subdivision which were in various stages of completion. He explained the growth potential of his school district as he had been able to predict it, but added quickly that his estimates were subject to the whims of the county board of supervisors which had control over zoning in the unincorporated areas of this suburban county. In this county the county planning body makes recommendations to the county board of supervisors in regard to zoning matters. The county board of supervisors may accept or reject the recommendations of the planning commission, or it may make zoning changes without the recommendations and, apparently in some cases, the knowledge of the planning commission.

The superintendent described a recent change in zoning that had been made in a part of his school district. The change involved a reduction in lot size. Because the housing developments in this area included a substantial number of homes yet to be constructed, the enrollment projections for this part of the school district were affected markedly. The superintendent was informed of the

Local units of government are frequently in competition with — or ignorance of — the activities of one another. The school board is caught in the midst in a struggle for survival. . . . Here is a sound perspective of the urban shivaree.

LUVERN L. CUNNINGHAM

Assistant Professor
Department of Education
University of Chicago

change only when he noticed construction taking place upon smaller sized lots than were called for in previously existing zoning regulations. When he telephoned the planning commission he discovered that they were not aware of the change either. For some reason, the zoning had been changed by the county board of supervisors; two important agencies of local government had not even been notified of the change.

Obviously this is not a unique

occurrence, nor is this a serious problem only for schools. Changes in zoning which affect land use in any way are important to those who are responsible for providing public services — water, sanitation, libraries, police and fire protection, parks, delinquency control, etc. This is just another illustration of what is becoming one of the most serious governmental problems. And it is so vast and so complex that it defies the comprehension even of those who devote their professional lives to its analysis.

The Metropolis Phenomenon

The metropolitan community as a researchable phenomenon is at one and the same time ominous and foreboding as well as fascinating and challenging. The urban landscape is marked by its diversity, by its changing land use patterns, by its ecological dynamics. As observers, people find themselves awed by the processes of change that are going on within the urban environment. Seemingly these are "natural" processes, occurring much like biological processes. As American cities become larger and larger, metropolitan areas are being linked¹ — so much so that America may experience almost continuous urbanization from border to border. Population experts characterize this growth as urban sprawl. It is ominous because of the apparent inability to control urban growth, and fascinating because of the challenge it provides to the American intellectual community.

William F. Whyte, Jr., has vividly described this contemporary American phenomenon:

With characteristic optimism, most Americans still assume that there will be plenty of green space on the other side of the fence. But this time there won't be. It is not merely that the countryside is ever receding; in the great expansion of the metropolitan areas the subdivisions of one city are beginning to meet up with the subdivisions of another. Flying from Los Angeles to San Bernardino — an unnerving lesson in man's infinite capacity to mess up his environment — the traveler can see a legion of bulldozers gnawing into the last remaining tract of green between the two cities, and from San Bernardino another legion of bulldozers gnawing westward.²

And so it goes. People and machines, moving and rooting, using and re-using the land. Each day thousands of private decisions are made which have profound effects upon the public

¹For an enlightening discussion of urban growth read William Zeckendorf, "Fluid Suburbia," *The Yale Review*, Vol. XLVIII, Autumn, 1958, pp. 27-40.

²Editors of *Fortune* magazine, *The Exploding Metropolis* (Garden City, N. Y.: Doubleday and Company, Inc., 1958), pp. 115-116.

good. Likewise, public decisions impinge upon, alter, or stimulate decisions within the private realm of decision. This unplanned, almost indiscriminate urban growth, with unbridled private decision making and affecting the public interest, is the subject of widespread concern.

The Urban Scene

For analytical purposes it is useful to examine separately some of the factors which bear upon change in metropolitan areas. These same factors affect human activity and enterprise anywhere and everywhere in America, but they are particularly relevant for study of the urban scene. Obviously economic, sociological, and political variables are interrelated; no single factor can be examined independent of the others. The general economy of a metropolitan region expressed in terms of goods and services produced links with employment and the labor market. High employment stimulates the economy and in turn affects the living standards of people. Current prosperity makes it possible for people to change their residences, and stimulates the movement to suburbia. Suburban growth changes the ecological balance of the urban community imposing new social alignments and new demands for public services, usually in areas poorly prepared, governmentally, to supply them. Consequently, a myriad of governmental subdivisions arises in response to demands for new or better services — services which cost money and somehow must be paid for.

Despite the "mixed-up" nature of these factors, it is useful to consider each one independently. First economic factors appropriate to the analysis of local school districts in the scheme of local government will be examined.

Economic Factors

The unprecedented economic growth in the United States in the past two decades has permitted the American people to enjoy their highest living standard. There is reason to believe that the Gross National Product, which now approaches 500 billion dollars per year, may double in the next decade. This economic growth will be in urban America — in places like Santa Clara County, Calif.; St. Louis County, Mo., Cook County, Ill.; Dade County, Fla.; and hosts of other similar places.

Prosperity affects the urban community in many ways. Employment possibilities attract people and the prospect of an adequate labor force attracts industry. Population growth

stimulates housing, commercial enterprises, and private as well as public services. Wood's description of the economics of metropolitan growth is worth noting:

Bigness and relatedness are two characteristics of a metropolitan area. They are in particular the trademarks of a modern regional economic system. As the central urban core divests itself of manufacturing and commercial functions, the geographical scope of economic activities steadily expands. Larger and larger portions of the labor force take up residence in the suburban hinterlands. In the new garb of shopping centers, commercial establishments follow the housewife and, in search of space, manufacturing plants settle on the outskirts of the urban fringe.

The growth in size calls forth a complex web of relationships, for the core still serves as the nerve center for the region, retaining the central offices and sales-rooms, the biggest and best retail stores, the major cultural and entertainment activities, and providing the seed bed for small, highly competitive, unstandardized industry. The daily movement of people across the region grows and so do the volume of business transactions, the communications within firms with separate manufacturing, warehousing and sales locations, and the distribution of goods and services.³

This is urban America — its past as well as its future. It is recognized that under the present plan of governmental organization, with the ability of local units of government to support increasing demands for public services, the tax valuation of industrial properties is needed. And so there exists the well-known, but interesting paradox of suburbanites wanting the clean, cool air of suburbia, uncontaminated by the smoke and noise of industry, and at the same time wanting the fat valuations of industrial properties for tax purposes. Industrial growth is contingent upon a host of factors such as zoning regulations, transportation provisions, availability of a labor force, and tax structure, as well as the attitude of citizens toward industrialization. Obviously, the amount of industrial property and its location are top priority considerations in decisions relative to changes in any type of local governmental reorganization. It is exceedingly important in school district reorganization because of the heavy public finance demands of schools upon the local tax base.

Sociological Factors

In the absence of governmental restrictions upon land use or when existing restrictions are loosely enforced, the sociological complexion of an area is subject to rapid and

³Robert C. Wood, *Metropolis Against Itself*. Area Development Committee, Committee for Economic Development, 711 Fifth Avenue, New York 22, N. Y., Mar., 1959, p. 11.

unpredictable change. These changes impose demands upon local government, and in most cases upon local governments that are either unresponsive or impotent in the face of these requirements.

To consider what would be a "good" arrangement of school district boundary lines, for example, the existing and projected arrangement of people within the areas served must be examined. It is known that different expectations concerning education are held by different socioeconomic groups. Likewise, certain community needs should be observed in the development of educational programs. The existing school district boundary arrangements either accelerate or constrain the development of sound education. The same will be true for future school district organization yet to be developed.

The acceleration of the attainment of defensible educational objectives may occur when adequate financial support for schools is available, or it may occur when public attitude supports good education, or both. The constraint may arise when inadequate financial bases exist or when public apathy toward education exists, or both. At any rate there are numerous social data which permit more intelligent analysis of the community, and presumably more sensible governmental structures.

If school district boundaries are arranged to include the spectrum of socioeconomic levels, then comprehensive educational needs will be encountered. If, however, districts are arranged to include rather homogeneous segments of the broad population range, then more specialized and probably narrower educational needs will exist. There are some fundamental social philosophical differences which arise when decisions relative to constructing school districts are considered. For instance, the question of whether all social economic classes should be accommodated within one school system frequently is raised. It is not the purpose of this writer to take a position here on this issue. It is simply suggested that knowledge of social structure permits anticipation of the demands that will be placed upon local government. Therefore, one should consider the present and potential location of tax resources in the American organization of local units of government.

Governmental Factors

Local school districts are important basic units of local government. In the country at large, local school districts make up about half of all the units of government that currently

"School districts do not exist in an economic, social, or governmental vacuum. As local units of government they are inextricably enmeshed with a host of other public as well as private interests. School districts along with other local governments in urban America are in competition for two kinds of support — one is financial and the other might be characterized as 'attitudinal.' "

exist. Although the number of school districts is decreasing — rapidly in some states — the number of units of other kinds of governmental subdivisions is on the increase. Apparently the widespread concern over inefficient school districts has contributed to this reduction. But the burgeoning population growth in the urban fringes of America has called forth a maze of other local governments — many of which are as inefficient, or even more inefficient, than some school districts which are being eliminated.

Hodge-Podge on City Peripheries

Urban America tolerates this hodgepodge of local government units on the periphery of its central cities. For example, St. Louis County, Mo., contains 29 school districts and 98 incorporated areas or municipalities. In addition, there are numerous other districts or units of government which exist to satisfy special needs. St. Louis County does not provide fire protection. The absence of this county-wide service has forced special arrangements for fire protection. In many similar places, these provisions have taken the form of contractual arrangements with municipal

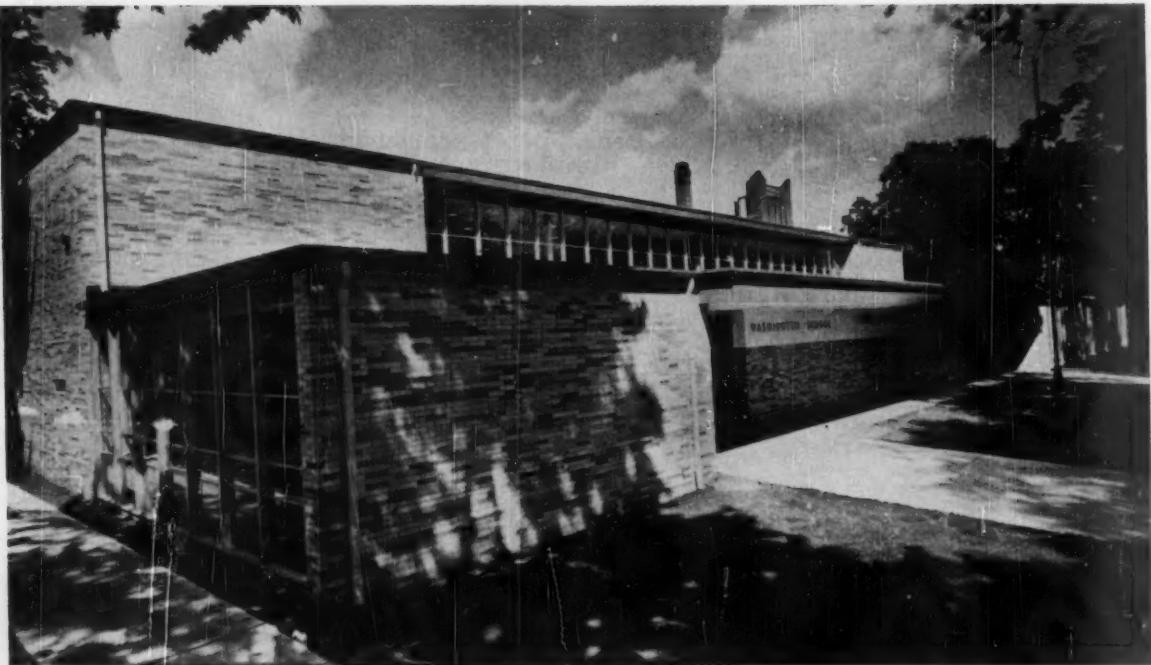
fire departments; others involve the creation of special fire districts which serve several villages and small towns. Provisions of this type are tenuous at best and are subject to rapid outdating as populations grow, as unincorporated areas become filled with new subdivisions, as contractual agreements break down for one reason or another. The problems associated with just one kind of public service can be multiplied many times over when other services are considered — health, sanitation, police, and education, for example. Wood describes it in this way:

Emerging from a state of rural somnolence, they [suburbanites] are called on to make heavy initial outlays for water systems, sewage disposal plants, schools, roads, fire stations and police headquarters which never existed before. Their facilities are often overtaxed almost as fast as they are completed, and suburban capital improvement programs go on endlessly in an era of the highest building costs in the nation's history.*

Thus, in counties like St. Louis County, the gross demands for public services are mounting; but the problem is further complicated by the fact

*Robert Wood, *op. cit.*, p. 17.

Concluded on page 37)



Bay City's Million Dollar Baby

THE BAY CITY PLAN

The eleventh school to materialize in the 15 year (till 1964) plan, the Washington structure runs total construction costs to \$4.2 million.

It is intermediate in the Bay City system, wherein pupils attend one plant from kindergarten through fourth or fifth grade (K-4 or -5), another through eighth, and then senior high school.

The Washington school also completes original plans for erection of four intermediate schools. The eleven total is rounded out by seven elementary structures — six K-4 and one K-5.

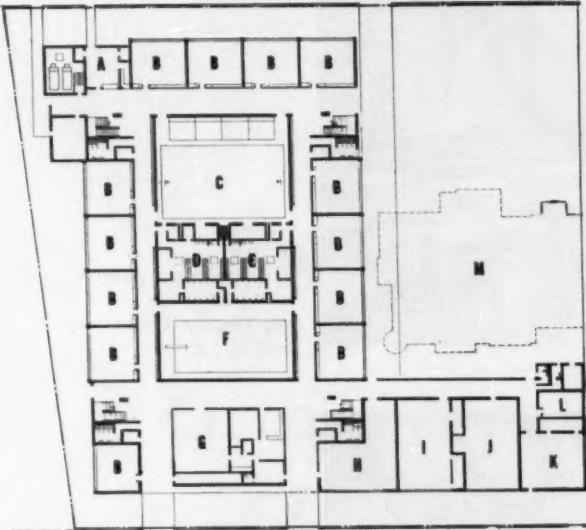
The largest sub-high public school in Bay City, Mich., also touches the college scene. Bay City Junior College students are sharing the Washington school's recreation area until the new Delta College is completed in 1961.

Bay City, Mich., citizens suffered a nostalgic tug at deep-rooted heartstrings this past summer when their venerable 63-year-old Washington elementary school gave way to the new two-story million dollar structure that carries the same name. Sons, daughters, and grandchildren of alumni crossed the new plant's threshold for the first time in September.

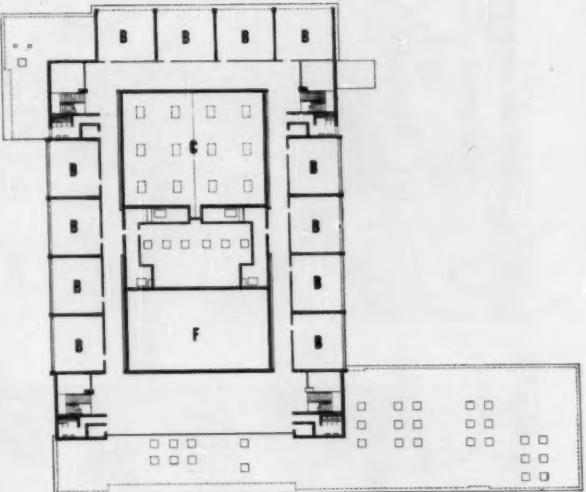
Facilities Provided

The \$11.35/sq. ft. building will serve 800 sixth through eighth grade pupils, and fifth graders temporarily to relieve pressure in crowded feeder primary schools. Twenty-five classrooms facing outside border a corridor that surrounds the physical education section, in the middle of the plant.

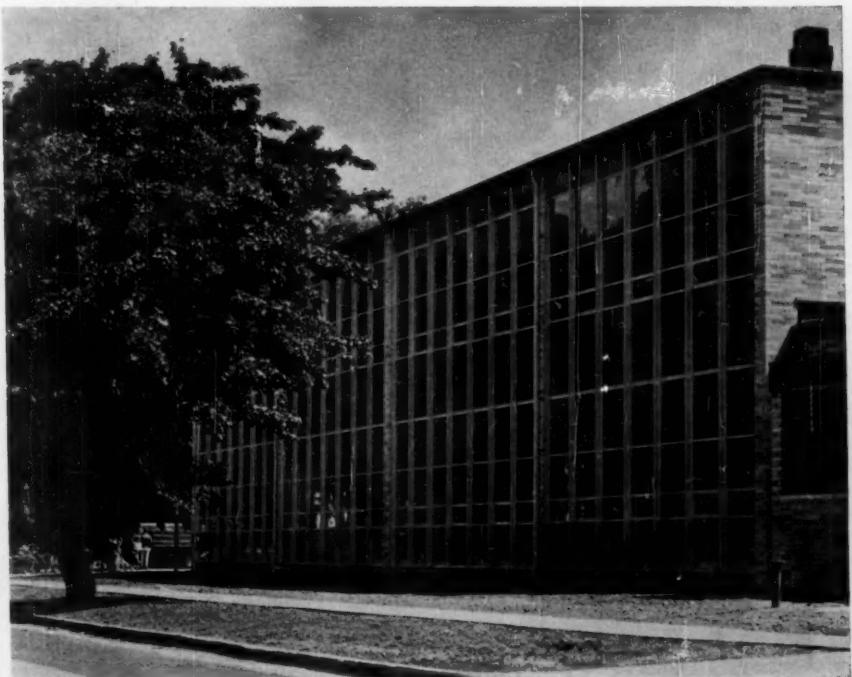
One side of the building is glass curtain wall with insulated plastic



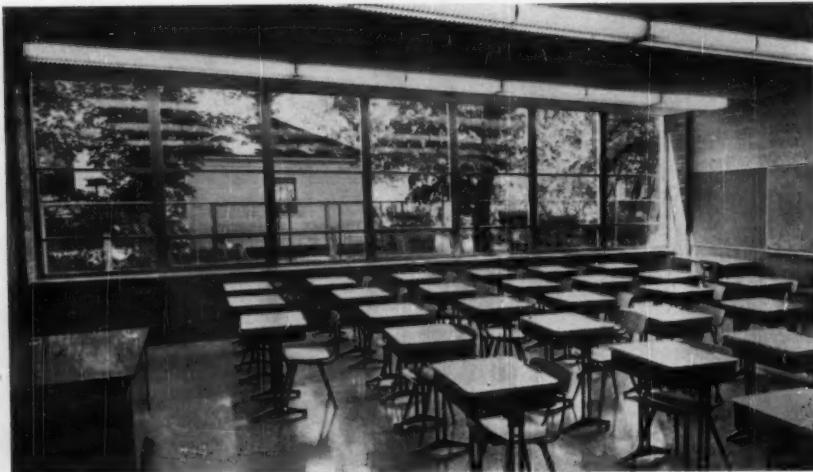
A. Kitchen
B. Classrooms
C. Gym
D. Girls' locker room
E. Boys' locker room
F. Natatorium



G. Library
H. Artroom
I. Shop
J. Homemaking
K. Music
L. Teachers' room



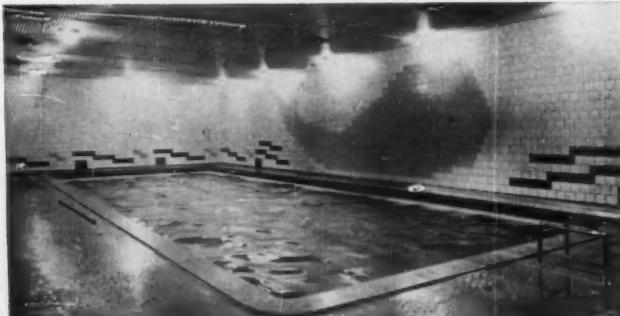
An exterior view of the Washington Elementary School in Bay City, Mich., a design of Brysselbout-Starke & Hacker, Inc., an architectural firm of Bay City. Superintendent in Bay City is Elwyn J. Bodley.



A typical classroom
of the 25 in the
Washington Elementary
School.



The gymnasium is
60 by 78 feet.
It has a folding
stage and portable
bleachers.



The 25 by 60 foot swimming pool.
The "shadow" on the wall does not
reveal an ominous catacean pres-
ence in the water, but an imaginative
designer.

paneling, an innovation in the 11-school building boom that comprises the 15 year Bay City plan (see box). The glass wall extends from the first floor to the ceiling of the second.

Included in the facilities are a poolroom, gymnasium, a 33 by 96 foot activity room, a library, art, industrial arts, music, and homemaking rooms, and administrative offices.

The poolroom is not a breeding ground for future Willie Hoppe's, but a brilliant natatorium featuring a 25 by 60 foot swimming pool. The

Classroom floors, Kentile
Acoustical materials, Gold Bond Co.
Unit ventilators, Herman Nelson
Temperature Control, Johnson Service Co.
Program clocks, National Time & Signal Corporation
Fire alarm system, same
Panel boards an electrical control, Square D
Toilets, urinals, wash bowls, drinking fountains, American Standard
Flush valves, Sloan Valve Co.
Gymnasium equipment, Narragansett Gym Equip. Co.
Bleachers, Wayne
Pupils' classroom desks, American Seating

gymnasium, with folding bleachers for 300 spectators and a portable stage, can be partitioned so that one section can be used for a cafeteria area. An all-stainless steel kitchen is just across the corridor. The activity room is designed for group meetings, movies, dances, and parties. It can be divided, if necessary, to make three additional classrooms.

There is also a sizable recreational area, which will be expanded when the old gymnasium and six-classroom unit are torn down. ■

Facilities for a Pilot Orthopedic Program

**ERNEST G. LAKE and
MALCOLM W. WILLIAMS**

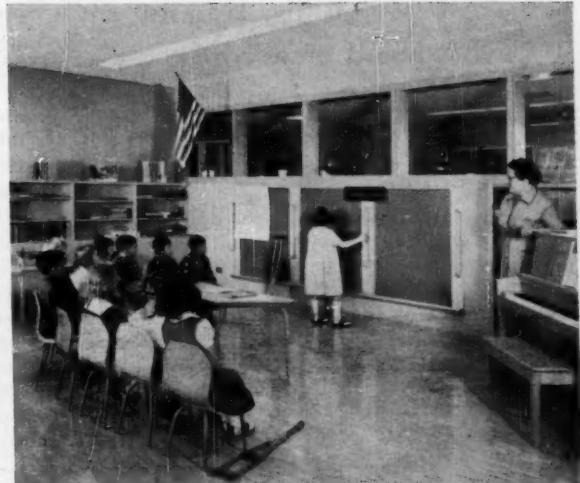
For years the Racine public schools have offered an outstanding educational and physical rehabilitation program, serving physically handicapped children of the city and county. The Racine effort has served as a pilot program in a state notably attentive to the needs of handicapped children. Adequate state funds, assisted by strong state professional leadership and active state parent interest, have made it easier for Wisconsin communities to provide adequate services for such youngsters.

The Racine program for many years also has had the sympathetic understanding and active encouragement of a

board member, Dr. Beatrice O. Jones, herself an outstanding medical practitioner in children's diseases. Dr. Jones has seen the real educational needs and the desirable special services and facilities required to satisfy them, and she has stood ready to support the superintendent in his program.

The Racine orthopedic school facilities were at first provided in an old elementary school building, only par-

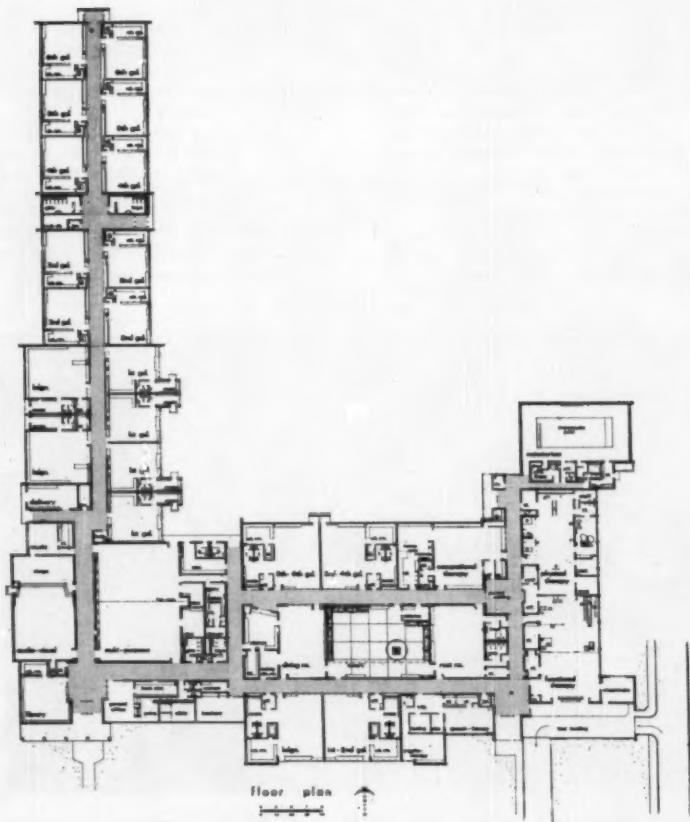
**Dr. Lake was formerly the superintendent of the Racine, Wis., schools.
Mr. Williams is an architect with the Warren Holmes company.**



Architect for the E. H. Wadewitz Orthopedic and Elementary School was the Warren Holmes Company of Racine.

In planning the special education facilities for the school, the Racine board of education agreed on these principles —

1. Orthopedic pupils were to share a wing of a complete elementary school building (near both a senior and a junior high school) to permit easy use of special facilities in the orthopedic school for all students full-time or part-time, elementary or advanced in training.
 2. Water therapy was accepted as being more desirable than heat treatment for the major share of our orthopedic charges, though heat treatment was to be included in the program.
 3. Rest was considered as an essential part of the treatment program and special facilities were to be provided.
 4. Occupational therapy and physical therapy seemed equally important to the program; both were to be provided with adequate space.
 5. Special lunch and transportation facilities were to be planned, suited to the special needs of the orthopedic students and to the rigors of a Wisconsin climate.
 6. The use of special hall railings and similar artificial aids, not available in the home, were to be avoided.
 7. Scrupulous attention, however, was to be given to providing floor materials and floor conditions suited to pupils who are often impaired in their ambulatory movements.
 8. All medical care was to be directly under the family physician, but school clinics were to be sponsored by a panel of competent specialists. Referrals were made to the school by the family physician.
 9. Psychological and speech services were to be provided special areas planned for the use of all students served by the school.

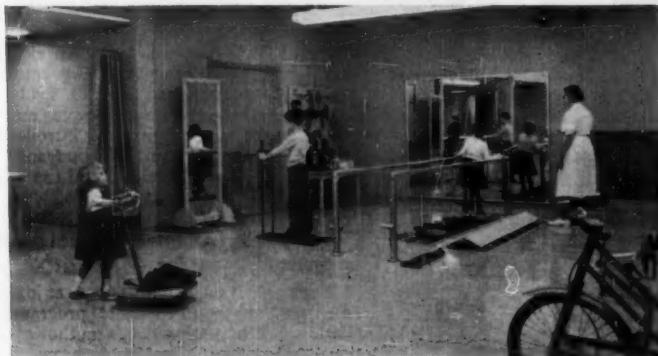
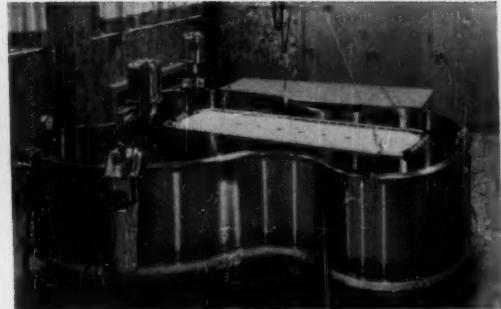


tially adapted to the program. Space there had become available because of the loss of elementary school enrollments in the attendance district. The increased birthrate of the '50's demanded either an addition or new classroom facilities for the orthopedic school. The architect was instructed to determine which course of action seemed best. The disadvantages of the limited site made it soon apparent that a new location should be sought.

The superintendent of schools was instructed to work with the architect and to ascertain the best practices in special building facilities for physically handicapped students. Representatives of the building committee and of the board of education visited special facilities in Philadelphia, Chicago, Minneapolis, Milwaukee, Austin, Long Beach, and Battle Creek. Literature on the subject was searched for new ideas. The committee soon realized that the diversity of building practices were many times dictated by the varying points of view held by the medical and educational profession with respect to the treatment of physically handicapped children. It was, therefore, necessary to agree on the major tenets of the Racine program before charging the architect with a bill of specifications. Again the doctor member of the board was of great help in bringing to the deliberations an understanding of the medical point of view. The acceptance by the board of education of the principles ultimately resolved soon provided the architect with guide lines for a specific bill of requirements (see accompanying list).



Above; a nurse guides a handicapped student. Right: equipment in the tank treatment room. Lower, right: children at leisure in the kindergarten room. Lower: children under guidance in one of the physical therapy areas.



The special mirrored cafeteria enables the children to watch themselves as they eat.

Facilities for the elementary school

The elementary school division of the building is located in the west wing and contains sixteen classrooms. Serving this division and the orthopedic division, and to the left of the main entrance, are the library, instrumental music room, and audio-visual room. On the right is the multipurpose playroom used for indoor physical training activities. Joining the two divisions are the administrative offices, which include space for general office requirements, books and paper storage, and an office for the principal. A health clinic and teachers' lounge complete these centrally located special facilities.

Ceramic tile floors in varied colors blend with harmonizing brick color tones and provide an attractive as well as practical corridor, free of the usual maintenance problems. At the left entrance of the elementary school division a mosaic frieze designed

by elementary school pupils adds to the color and attractiveness of this wing.

Opaque sky domes provide brightly lit halls, blending with quiet, harmonious colors throughout the building. Library, multi-use, and audio-visual rooms are centrally located for the convenience of the public for community use as well as for school use.

Classrooms for pupils in kindergarten and first grade are planned to permit the pupils to enter each classroom directly through coatrooms. Individual boys' and girls' toilets and washing facilities are provided in each classroom. Work space is planned as a part of the classroom.

Classrooms for grades 2 to 6 are provided with workroom space specially designed for art, science, and manual training activities. A special reading and library corner is included at the rear of each classroom.

Named in honor of the founder of Western Printing and Lithographing, one of Racine's leading industrial concerns, the E. H. Wadewitz Elementary and Orthopedic School is presently serving over 200 orthopedic students and 600 elementary school pupils. It is located on a 12 acre site adjacent to the Horlick Senior High School.

Orthopedic School

The orthopedic division is in the east wing and contains four regular classrooms plus special facilities for physical and occupational therapy treatments. Physically handicapped children are provided special facilities to achieve the educational goals of the school. A team of specialists helps them achieve maximum growth and development so that they may lead as complete an adult life as possible. The orthopedic "team" consists of teachers, physical therapists, occupational therapists, speech therapists, physicians, psychologists, social workers, testing specialists, and nurses. Through the work of the orthopedic "team," pupils are carefully prepared to meet their limitations realistically and to establish self-confidence and self-respect quickly.

Classrooms in the orthopedic department are 50 per cent larger in floor area than the average classroom. In this generous space children with crutches and wheel chairs can move freely. Extra large tables with special cutouts assure the children of proper body support and of having supplies near at hand with less possibility of pushing them to the floor. Grab bars are located near each chalkboard for support. Several chalkboards in each room are low enough for wheelchair pupils.

Each orthopedic classroom has its own lavatory facilities. Ramped exits to the outside are provided from every classroom.

Conference rooms with one-way vision mirrors are accessible from the halls of each classroom. This makes it possible for parents and visitors to observe the children without disturbing the classes.

Other aids in the classroom include extra wide doors for easy passage of children with wheel chairs and crutches. Rubber tile floors give secure footing.

Paint products, Pittsburgh; Pratt and Lambert
Roof construction and materials, Huberoid
Insulation: ceilings and roofs, Fiberglass
Classroom floors, Johns-Manville; Masonic Tile; Armstrong
Heating and ventilating systems and Unit ventilators, Herman Nelson; Young
Toilets, American Standard
Drinking fountains, Halsey Taylor
Flush valves, Sloan
Auditorium seating, American Seating
Cafeteria chairs, Schoolco
Therapy tank, Ille

A spacious workroom next to the classroom permits the distractible child to work quietly and provides an isolated area for committee work or small group instruction. Fluorescent lighting gives optimal light.

Speech Correction and Testing

An observation room with one-way vision mirrors permits viewing speech correction and individual and group testing. A two-way communication system allows parents, teachers, and students to hear and to see the testing and speech correction work. A spacious room is occupied by the speech correctionist.

The best in acoustical treatment is necessary not only in hearing testing but in the actual speech correction work.

Oral communication plays an important role in all educational and personal development, but in the case of children with multiple handicaps, speech plays a vital part in the development of socialization and oral communication.

The testing specialist makes his headquarters in the Wadewitz School and when possible uses these fine facilities for individual testing. Parents are asked to accompany their children when they are being tested, not only to observe and to hear the testing, but also to confer with the testing specialist as to any specific recommendations he may have.

Dining Room

The majority of the orthopedic children are served their food in cafeteria style. A special training dining room, which can be separated from the main dining room by folding doors, is used for training the younger children and the more severely involved to feed themselves. A large mirror in the corner enables the children to observe themselves while eating.

The dining room looks out on an enclosed court where the younger handicapped children can play in a sheltered area.

Because gardening is a hobby which can be pursued by the handicapped, a science greenhouse and planting areas are also located in this court area.

Taxi Area

All physically handicapped children attending the Wadewitz School are transported to and from school by taxicabs. The unloading platform has been carefully designed. Children are driven inside where overhead doors protect them from the elements. Inner doors leading to a small multi-use room reduce the chilling of the rest of the building during the loading and unloading of children. A wheel-chair storage room adjacent to the unloading area enables the matrons to have wheel chairs immediately available for the children.

Physical Therapy

Two physical therapists working under the prescription of a qualified physician use therapeutic exercise, various types of heat, water, light, electricity, and massage to help overcome the physical disability of the orthopedically handi-

capped. In the functional therapy room much movable equipment such as curbs and ramps, foot placement ladders, footboards, stall bars, steps, and an overhead track are used in strengthening and restoring functions to the patients' injured or diseased muscles, nerves, or joints, relieving pain and correcting deformities. Parents and children must be instructed in exercise routines and treatment procedures which can be followed at home. A soundproof treatment room with a one-way vision mirror makes observation possible without disturbing the therapist or the patient.

There is sufficient room and equipment in the physical therapy area for exercising several children simultaneously. There is office space for recording the medical and treatment records, and a conference room where therapists, physicians, patients, and parents may discuss and interpret the physical needs of the patient.

The hydro-therapy room contains a Hubbard Tank and whirlpool. An electrical hoist with an overhead track makes it possible for a child to be lifted from the treatment table and placed in the tank where the controlled temperature of 92° and the buoyancy of water aids in the exercise and use of limbs.

Swimming and Adapted Physical Education

Swimming is an important and enjoyable part of the orthopedic program. Working with a physician's authorization, the swimming instructor provides small group instruction from both a recreational and a therapeutic standpoint. The buoyancy of the water aids many children to function quite as a normal child might.

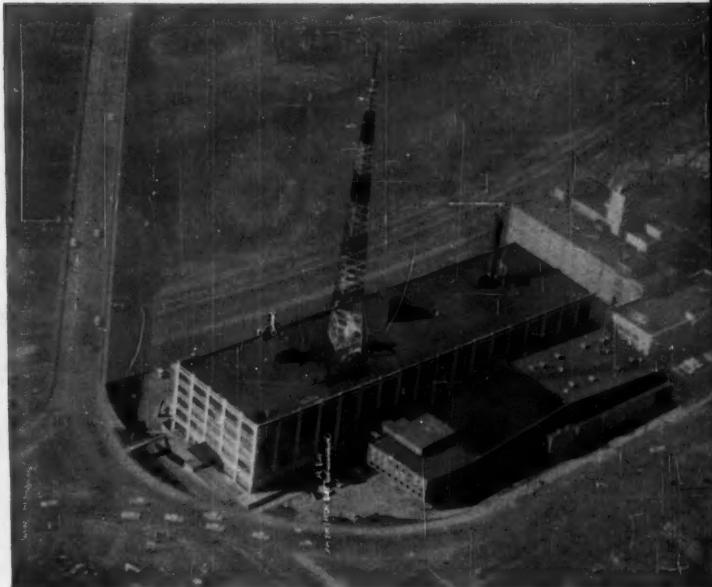
Many games can be played while in a wheelchair or on crutches if the rules are modified and the teacher is inventive. The physically handicapped can thus enjoy the excitement of games just as the normal child can.

Occupational Therapy

Working under a physician's direction, the occupational therapist, with a wide variety of equipment, provides meaningful activity to individuals and small groups. Young children become bored quite easily when exercising day after day. When they are performing a constructive activity using a foot-powered jigsaw or making a rug on a loom, they not only exercise the recommended muscle or group of muscles but become very interested in the project at hand.

Shower, bath, and toilet facilities are available so that young physically handicapped can be trained in their use.

The foods and clothing area, which can be separated from the main occupational therapy area by a folding door, provides practical training and experience in a normal home setting. It is felt that the majority of the physically handicapped will not have special facilities in their home and thus should learn to use the usual foods and clothing equipment without adaptations.



The new \$5,000,000 Des Moines Technical High School is attracting visiting vocational teachers and supervisors from many states. Now in its second year of operation the staff of 84 and student body of 1440 is making excellent use of the extensive facilities in this large building.

Background of the Schools

A technical high school for Des Moines was established in 1942 in the building which was formerly known as West High School. This building was an older structure—part of it constructed in 1888 and a new section in 1903. Des Moines Tech was partly an outgrowth of a program of training adults for employment in defense activities which the school system had been asked to provide. Too, it was the culmination of local plans for such an institution. The late Roy C. Woolman, director of industrial education, took an active part in the organization of the technical high school.

From 1942 until the end of World War II the high school program and the training of adult workers for industrial firms engaged in defense activities were carried on side by side. Meanwhile, the school had grown from an enrollment of less than 300 the first year to about 450. This latter enrollment figure was augmented by returning veterans seeking technical education for employment purposes. The number of veterans in training exceeded 250 at various times.

After World War II, enrollment in

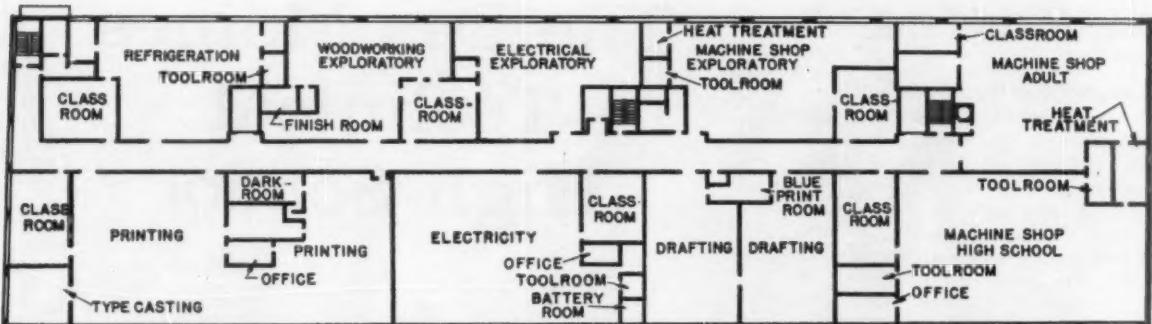
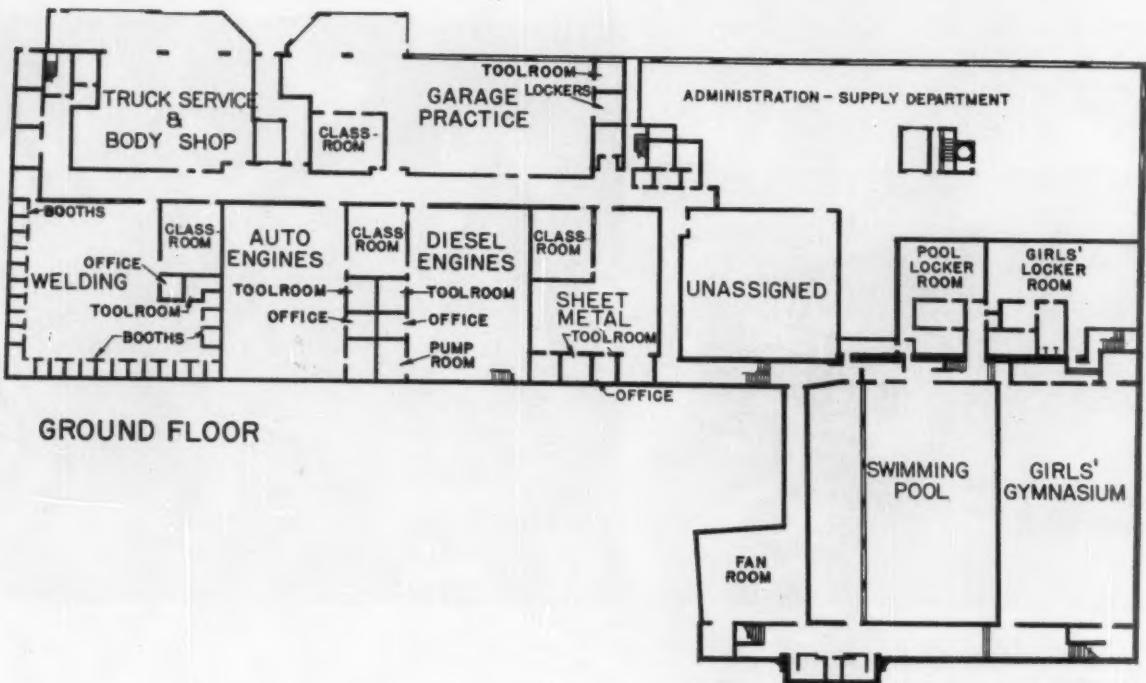
the technical high school grew rapidly. Over 700 were enrolled in 1948, 900 in 1952 and 1100 in 1954. From 1954-57 there was little growth in enrollment because of the limited facilities in the old building. The increased student interest in technical education and the bulge of approaching secondary enrollments were the realities that faced the board of education. The board agreed that more facilities must be provided.

Late in 1951 it was learned that

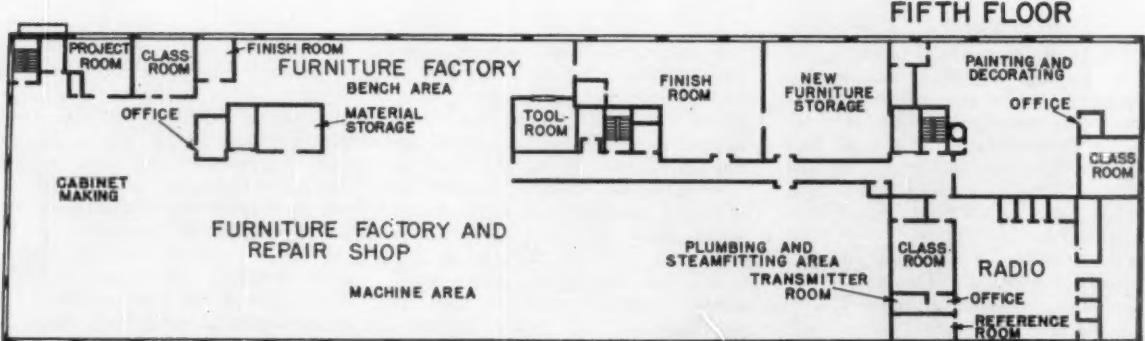
the Solar Aircraft Company planned to vacate the building at 1800 Grand Avenue. This building was constructed about 1916 by the Ford Motor Company for use as an assembly plant. It was acquired by the Solar Company about 1940 for use as a plant for fabricating parts for jet engines. After much study of the many problems involved it became evident that this building would provide the space required by a growing technical school. In addition to having large floor space the

ROBERT R. DENNY

Administrative Assistant to the Superintendent
Des Moines, Ia., Schools



FOURTH FLOOR



structural data

Footings	506 hollow metal tube, concrete filled pilings; average depth 30 feet, capped by mass concrete.*
Structural	Re-inforced precast concrete and structural steel; steel joists; steel deck; some 6" concrete roof slabs.*
Exterior	Face brick; metal panels; limestone; granite.*
Doors	Aluminum; wood; hollow metal.
Interior	Concrete block; lightweight block; metal lath and plaster;
Walls	metal panels; glazed tile, glazed brick; face brick; sheet rock.
Fixtures	Wood cabinets; green composition chalk boards; cork bulletin boards; glass and wood display cases.
Finish	Birch red oak; cypress.
Floors	Asphalt tile; plastic tile; terrazzo in locker room areas; wood in gyms and wood shops; concrete floors.
Pool	Re-inforced concrete with ceramic tile liner; glazed tile walls; cork ceiling.
Ceilings	Acoustic tile on plaster or concrete; acoustic metal roof; reinforced concrete.
Lighting	Fluorescent fixtures; incandescent fixtures; mercury vapor in gymnasium.
Electric	Complete sound and public address system; clock and program system; fire alarm system.
Heating	Boiler room in existing building; central fan system used in conjunction with auxiliary radiation; convectors; fin-tube radiation; 3 combination gas-oil burners in 3 high pressure boilers.

* Applies only to new section of building.



radio-TV equipment



student lounge



cafeteria kitchen

building was centrally located which was a factor since the students come from every section of Des Moines.

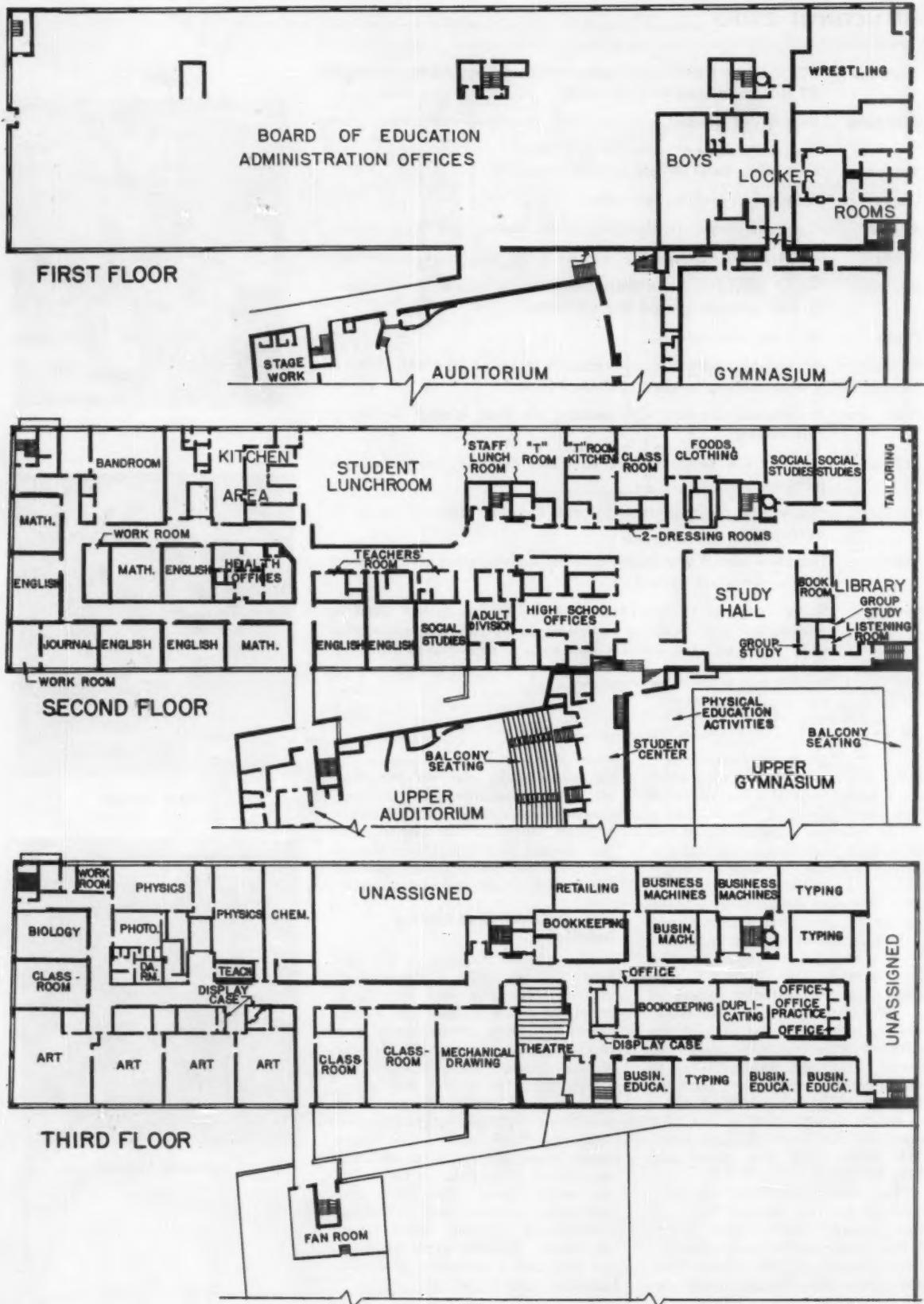
The board of education also was faced with providing a new administrative building, a new furniture factory, a building to house the adult education department, a building for the supply department, and a central warehouse. A plan was developed to bring together at this one location the technical high school, the administrative offices of the board of education, the furniture factory, and the supply department with warehousing for the district. This plan was presented to the voters who authorized the purchase of the building in May, 1952. According to agreement it was then leased to the Solar Aircraft Company while their new plant was being built.

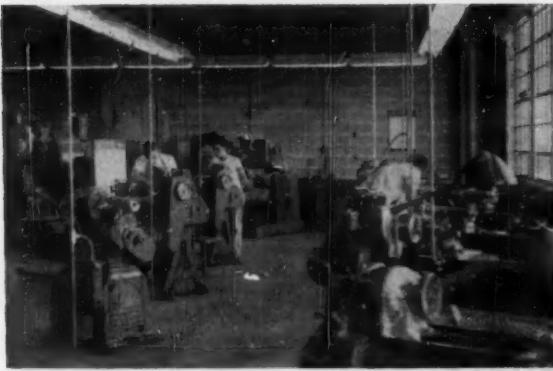
The construction of separate buildings for Des Moines Technical High School, administrative offices of the school district, and the furniture factory would have been costly. By consolidating many de-

partments under one roof, the overall heating, maintenance, lighting, custodial and clerical costs have been reduced. Some of the departments now housed in the new Des Moines Tech had previously rented quarters which cost almost \$10,000 annually.

Extensive Additon to Existing Building

The original building is 450 feet long, 120 feet wide, 5 stories high in front plus a ground floor level under the entire building and a sub-basement under approximately two thirds of the building. While the original structure could be remodeled for classroom space and shop areas, an extensive addition was needed to provide an auditorium, gymnasiums, swimming pool, and other areas noted below. Thus a large addition was placed at the front of the building which houses the 2000 seat auditorium; radio and television broadcasting studios, offices and equipment; separate gyms for boys and girls and a swimming pool with spectator seating for 540.





the machine shop



the electrical shop

General Assignment of Space

In the accompanying floor plans the reader may see the layout of the building. The general assignment of space in the building is as follows:

Sub-basement: Central warehousing, administration.

Ground floor: East two thirds, shops for heavy industry such as welding, diesel, sheet metal. West one third, supply department and storage administration.

First Floor: East three fourths, Board of Education administration offices. West one fourth, dressing rooms for physical education.

Second Floor: High school offices, study hall, library, lunchroom and general classrooms.

Third Floor: Vocational classrooms for business education, art, and science.

Fourth Floor: Shops for light industry such as printing, refrigeration, drafting, and machine shop.

Fifth Floor: East two thirds, cabinet-making, furniture factory and repair shop. West one third, additional shops for painting and decorating and radio.

What the School Offers

As pupils approach the close of their 10B semester, they need to state their choice of a field of training in order that they may concentrate their preparation on one type of work at Des Moines Technical High School. The core areas in which they may specialize are listed below:

Commercial Art
Auto-Diesel Mechanics
Aviation
Business Fields
Retailing
Stenographic
Clerical
Accounting
Vocational Cabinetmaking
Vocational Drafting
Basic and General Electricity
Hotel Restaurant Practice
Machine Shop
Painting and Decorating
Printing

Radio and Electronics
Refrigeration and Air Conditioning
Tailoring
Welding
Vocational Sheet Metal
Television and Radio Program Production

Evening Adult School

In addition to the daytime student body of 1440 there is extensive use made of Des Moines Tech by adults in the evening classes. The regular evening school program for employed workers is operated two terms each year. The fall term starts about October 1st and continues for ten weeks. The spring term starts on or about February 1st and continues for ten weeks. Many of the classes are taught by regular instructors at Des Moines Technical High School whereas others are taught by highly recommended people from business and industry.

In the fall of 1959 there were 40 classes with 654 adults enrolled in them. Ross Cramlet is in charge of the Adult Evening School. Here is a partial listing of classes offered:

Arc Welding
Automatic Transmissions
Bookkeeping (Beginning)
Diesel Engines
General Office Practice
Hydraulics, Basic
Posting Machines
Real Estate Fundamentals
Shop Math Review
Slide Rule
Stock and Bond Investments
Tool Design
Auto Mechanics
Blueprint Reading
Chemistry, Basic Industrial
Electronics
High School Credit Courses
Income Tax Preparation
Radio Service
Refrigeration — 1
Shorthand
Small Business Management
Television Service
Typing

In addition to the adults enrolled in the classes above, there are 155 apprentices in 19 groups coming to evening sessions.

Apprenticeship training on evenings and on Saturdays is carried on throughout the school year. For example beginning on Saturday, September 19, 1959, a school for carpenter's apprentices began at Des Moines Tech. About 60 young men attended the first four-hour session sponsored jointly by Carpenter's Union Local 106, the Des Moines Construction Council, and the Des Moines schools. Classes will be held each Saturday for 1st, 2nd, 3rd, and 4th year apprentices. Over a four-year period the young men will receive 546 hours of schooling besides working on the job. A. B. Musselman of the Des Moines schools is in charge of this as well as other apprenticeship programs for sheet-metal workers, plumbers and steamfitters, ironworkers, painters, and decorators, tool and die makers, bricklayers, typographical, steelworkers, and other craft groups.

Thus it can be seen that the \$5,000,000 Tech High is a building that serves the 212,000 people of Des Moines in many ways. It is a regular day school. It has an extensive evening school for employed adults. It carries out a broad program of apprenticeship training.

Elmer Betz, principal of Des Moines Tech, said, "There is ample space for the technical high school to grow by increasing enrollments in various areas and by providing instruction in new areas not now included. There is more room for expansion in shop areas than in academic areas. It is estimated that the enrollment should be approximately 2000 day students within five years. In addition, the school will continue to expand in providing educational opportunities for adults."

How to Help Your Substitute Teachers



— Eastman Kodak Co.

ROGER M. WOODBURY

Assistant Superintendent
Wellesley, Mass., Schools

There is considerable evidence to justify the sentiment expressed all too frequently by substitute teachers that they are "the most neglected creatures on the face of the earth." One doesn't have to look far to find many public school systems where the substitute teacher is the most grossly underpaid, ununiformed, and overlooked person of those contributing to the education and welfare of children.

This indeed is a bad and completely unnecessary situation. One has to have the experience to appreciate the difficulty of the task of stepping before a class of strange children and trying to carry on a constructive program of education, all too often being uninformed of local policy, curriculum content and pupil progress, and overlooked by principals, teachers, central office administration, and parents. In addition they are more often than not, never around to get a feeling of satisfaction of accomplishment through observing the progress the pupils have made under their instruction. A typical day in the life of one substitute, which no doubt will be echoed by many others, was described as follows:

An urgent call requesting substitute's services comes from Mr. Principal twenty minutes before the school bell is to ring; substitute arrives in the classroom just as the pupils are passing

and tries to restore semblance of order and get the opening exercises under way; in the meantime, substitute looks desperately around for a plan book or suggestion sheet to provide some idea of the day's schedule and work; she finally finds a plan book containing a few sketchy notes; — and so on through the day, stumbling along conscientiously striving to carry on the lessons and provide the best instruction possible, operating blindly and vowing to get more guidance from the principal and other teachers in the event she is to return the following day. In the situation described above, the only factor which prevents total chaos and salvages some constructive accomplishments from the day's time is the experience of the substitute who has been conditioned by such occasions. In many instances and with less experienced substitutes, the day is a total loss with the pupils being the biggest losers.

Some Progress Made

Fortunately some progress is being made in recent years by forward-looking school administrators in establishing procedures which minimize the losses to the pupils through the absence of their teachers. However, much remains to be done in order to prevent lost time and great detriment to the instructional program because of teacher absence.

The Wellesley, Mass., Public Schools, a system of slightly over 5100 pupils, has taken steps in recent years to help the substitute teacher become more effective in her work and to reduce the losses to the pupils due to teacher absences. Briefly these steps are as follows:

1. The services are engaged of a "floating teacher" — an unassigned, "extra" qualified, experienced teacher able and available to step into a classroom to take over in an emergency. This practice has proved most helpful and economical.

2. Principals check periodically to see that plan books are adequately maintained and guide sheets are readily available to assist the substitute teacher.

3. Whenever possible teachers are urged to call in their anticipated absence the night before so as to provide ample time for substitute recruitment. (In the Wellesley schools, each principal has the responsibility of engaging the necessary substitutes. Being closer to the situation, the principals are in the best position to secure the "right substitute for the particular job.)

4. Anticipating the substitute's arrival, the principal is already on hand to greet the substitute, help her become acquainted with the building, her fellow teachers, and instructional materials, and assist her in every way possible to get off to an effective start. Wellesley substitutes are expected to assume all the functions normally required of regular teachers and are always invited to participate in workshops, curriculum study projects, and conferences and to receive the school newsletter and other publications.

5. Last year with the co-operative assistance of the Education Committee of Wellesley's Central Parent-teacher Council, a series of six two-hour sessions were provided substitute and prospective substitute teachers. Each session was devoted to a major subject area of the elementary curriculum and, in addition to a talk by the supervisor of the subject, included demonstrations and a helpful question and answer period. Forty-two members of the community registered for the series, with an average of 34 attending each. As the result of this first workshop many regular substitutes expressed the feeling that they had been greatly helped to obtain a wider understanding of the total school community philosophy and gained many new ideas. A number of additional substitute teachers were recruited, and several of the "prospective" group registered at local teacher training institutions to prepare for regular work. The response to the workshop was so favorable that plans are being made to repeat it, adding new areas and making certain improvements.

Thus, through many different approaches, the Wellesley Schools are working, as are other alert systems, to eliminate one of the weak links in the total instructional program and help the substitute teacher become an effective member of the system's professional family. ■

Methods of Discipline

Part I of Dr. Cohler's discussion on the discipline problem was featured in the November ASBJ. Part II concludes the dissertation of School Discipline by Plan.

MILTON J. COHLER

Superintendent, District 14, Chicago, Ill., Schools

Just as in the natural sciences the law of parsimony is used to test theories, there is a law of parsimony in actions designed to achieve control. It can be stated as follows: Do the least that is essential to achieve the control desired. The teacher who can secure functional control merely by her presence should do no more. If it is necessary to indicate the desired action by a simple gesture, that's enough. If it is necessary to give a direction, that's enough. If it is necessary to make a long speech filled with recriminations, something else is necessary.

There are many good reasons for applying this principle also in interviews with parents. When unnecessary reasons are added at best the interview is lengthened to the point where the personal conference method becomes too costly to make it available to enough people. At the worst it begins to look like the demolition of an opponent, when one does not work co-operatively with a parent on a joint problem. In any case, when reason is piled upon reason, a collateral issue is sure to arise upon which the whole reason for the interview will be diverted. One must stick to the basic points with which he is concerned and omit everything else, or instead of discussing the problems associated with Mary's poor work or conduct, he will be arguing about who said what on a given date in the past when Mary was depressed by the slap she received from Susie the previous day.

In practicing the avoidance of collateral issues in interviews and in the daily conduct of a class, one must be ever so careful to avoid the disciplin-

ary threat — because this raises a whole series of negative collateral problems. The threat makes the parties concerned antagonists; it makes the carrying out of the threat a point of honor for the threatener; it gives away tactics and forces one to adhere to those tactics even after they are considered undesirable or found to be outside the scope of the authority. Above all, the threat is negative as motivation because in essence it authorizes the prohibited behavior until the threat is made.

No Unwise Threats

To be sure, sometimes the teacher needs an outlet for her classroom frustrations, and making a threat or removing the pupil from her presence for a time provides a desirable release from tension. However, the teacher should establish the practice of making these tension relieving gestures in such manner that they will not be irrevocable, thus avoiding the painful choice between a loss of face and a wrong solution of the problem at hand.

The eschewing of the disciplinary threat does not mean that a well considered plan of attack of the problem at hand may not be outlined to a pupil or a parent in a personal interview or at a case conference. This plan of attack may also include the referral of the case under certain circumstances to a disciplinary authority or a social adjustment agency. In outlining the plan, however, nothing should follow automatically. It should be perfectly clear that discretionary authority and decision still lie with the person in charge of each step of the outline. The purpose of a

plan is to release the administrator for the thoughtful exercise of judgment — not to make him a secondary data processing device.

This does not mean that there may not be some solutions which are largely automatic, which grow out of carefully worked out policy, based on fundamental needs. There are certain things the school just won't stand for, about which everybody is informed — that such and such an action will result in certain disciplinary action. One high school in which the author worked, for example, had a rule that anybody who engaged in a fight on the school premises was automatically suspended for a certain period, unless he could establish the fact that he was defending himself from an unprovoked attack. Furthermore, anybody who attacked a pupil on the premises, going to or from school, or in connection with a school activity, in gang style, was given a more severe suspension and assault charges were made and followed up in the courts. These automatic procedures were based on the fundamental needs for protecting pupils in their right to free public education and for maintaining the integrity of the school. Fights between immature individuals in a school would be so demoralizing if not suppressed that the school could not function, because the sources of disagreement are numerous and hidden in a social-psychologic maze too complicated to unravel.

Pupil Insolence

A source of discipline difficulties, second only to disagreements between pupils, is the problem of pupil in-

solence to teachers. The insolent pupil is giving vent to his aggressions in a verbal manner, rather than by a physical attack. His aggressions are motivated by frustrations which may arise in his out-of-school environment, or in the total school situation, or in his relationship with his teacher. In any case, it is a symptom of the presence of an educational problem. When the teacher finds that she cannot deal adequately with the problem, or fails to recognize the manifestation as an educational problem, she refers it to the administrative person for discipline. Where the problem is severe enough, only a study of the total educational milieu is adequate. Summary action is not the solution in these cases. While the case is under study, understanding by the teacher will be a big help. If she can develop enough security in her own professional status to make her unreachable by the verbal aggressions of a frustrated child, she will have the basis for treating the case.

The teacher must be sure that educational methods she applies to this child's instruction are not largely frustrating; and above all, extreme care must be taken to avoid tearing down the status of this aggressive child. Repeatedly confronting a pupil with his shortcomings, correcting him before the class, making remarks suggesting inadequacy in home and parents, patronizing or derogatory implications with respect to his ethnic or racial groups are all attacks upon the pupil's status which should be studiously avoided. Anything which can be done to raise the pupil's sense of personal worth is a positive influence. Realistic educational and vocational guidance, recognition and encouragement of individual achievement in curricular and out-of-school activities, remedial instruction at appropriate times are devices for raising a child's sense of status.

Positive Approach

In developing the sense of status we should be careful to use positive approaches. One must not give a person socially acceptable rationalizations for failing to do the desirable act. Just such a rationalization is provided when one says, "Oh you're smart enough to do this, but you don't work hard enough." Essentially, the pupil is being told, "You are doing this unacceptable thing, from my standpoint, for a reason that is socially acceptable in your peer group, since it is uncomplimentary to be rated stupid, but it is not wrong in your peer group not to do school work." If the question of ability and caliber of work is to be discussed at

all, would it not be more to the point to get across the idea that intelligence in action is the best test of ability? The best way to find out whether a person can do a thing is for him to do it when he gets the opportunity and conditions are set up which are propitious.

Providing children with the means to evade, in a socially acceptable manner, the responsibility for achievement is an insidious form of miseducation which can lead to moral and social deterioration. The lesson of a cartoon in a recent issue of a national magazine in which a psychologist says, "It isn't enough to be a genius, you have to be a genius *at something*," should be paraphrased positively for every level of achievement in every meaningful setting. A corollary of this on a disciplinary level is the legal principle that a man is responsible for the reasonable consequences of his own acts—and to be a full man one must be fully responsible. Thus there is a two-way responsibility: that of education and other social agencies to help in making the full man; that of the man (used generically) to be fully responsible. If this is to be the compact, we have to start teaching children to be responsible at an early age with respect to their simple responsibilities, which will be increased gradually in complexity as their relationship to society becomes more complex. The failure to approach this educational job developmentally results in people who are biologic adults with the childish propensity for employing good reasons as substitutes for performance.

Counselor for Special Cases

When the ordinary efforts of the classroom teacher are not sufficient to maintain discipline with respect to a given pupil, the pupil is usually referred to a person who has time in his schedule for individual conferences with referred pupils. Since the counselor does not have the day-to-day irritations with respect to this pupil, he can approach the study of the behavior deviate's case with appropriate objectivity. In addition to time and objectivity the counselor needs information about the student and the immediate problem, as well as freedom to study the case and use his discretion for its disposition. A teacher who brings the erring pupil to the counselor with a demand that punishment be meted out is asking for the elimination of all the advantages which accrue from time, objectivity, and the experience gained in individual counseling.

Instead, the teacher should state the problem with as much anecdotal detail as is relevant on a referral blank, and drop the form in the counselor's box. At an appropriate time the counselor will send for the pupil, after having familiarized himself with the record, and proceed with the case. If the nature of the offense requires emergency action, the teacher should send for the counselor or bring the offender to the counselor, state the problem, answer questions asked for clarification, and leave. Only in a private interview can the counselor do justice to the problem and provide an educational experience for the child. Nothing could be designed to tear down the status of a child more than to have disciplinarian, teacher, and, sometimes, parent all hacking away at one juvenile in trouble.

Principal Is Ultimate Judge

When the counseling-administrative staff is large enough to allocate each function to a different staff member, the counselor should perform only the counseling-adjustment function. When the problem does not yield to this treatment, it is then referred to an administrative disciplinarian for possible administrative action. Any action involving the severance of the pupil from the school permanently, or for a long enough period of time to have a possible effect on promotion, should be taken personally by the principal only.

It will be observed in this discussion that the most unpleasant duties are the personal responsibility of the principal. This is by design. In return for the freedom from the continuous strain involved in teaching a class, the principal has the awesome responsibility of making final decisions and the unpleasant task of making unpopular decisions when necessary. For these tasks the principal needs the opportunity to make such decisions based on objective study coupled with all the wisdom that experience with and knowledge of his job can provide. Even this is not enough without a system of checks and balances within the school designed to prevent rigidity in the administration of discipline. This system should include a faculty council for the review of policies and their administration—and above all it should include a philosophic approach to problems which promotes objective discussion by the members of the council. Nothing can be more debilitating for an organization than the insidious attack of the yes man on the person responsible for the final decision. ■

Richmond Removes Its Spelling Deficiencies

DAISY M. JONES and GLENN HOLDER

Various standardized test samplings throughout the city schools in Richmond, Ind., had revealed spelling deficiencies in grades 3 to 11; and later, when the California comprehensive tests showed spelling weaknesses in the junior high area, it was decided that action should be taken to study the situation.

The administration felt that the problem of improving spelling could best be handled by enlisting from the start the support of the entire faculty in the grades involved. Consequently, a committee of twenty-three, composed of teachers, department heads, and supervisors, was named by Superintendent Paul C. Garrison.

At the first meeting the committee discussed the problem but there was a noticeable lack of official data on the subject. To facilitate matters a subcommittee was appointed to draft plans to be submitted to the whole committee at the next meeting.

In due time the subcommittee proposed a two-year study of spelling achievement by means of standardized testing of all pupils, grades 3-12, and the whole committee accepted the recommendation. The tests were to be administered seven times, once near the end of the year in which the tests were proposed and three times in each of the following two years. The Stanford spelling test was recommended for use in the beginning. Since the California comprehensive tests were administered to 9A's on a regular schedule, those results also were available to the committee.

The subcommittee further recommended that (1) the Metropolitan spelling test be administered to all 9A's at the time the California tests were administered and (2) another subcommittee, on action, be appointed to study the results and to recommend action should the pupils be low in some areas, as the sample tests had indicated. The recommendations were accepted by the whole spelling committee, and the first city-wide spelling test was administered in May.

Results Showed Problem

Early in the first full school year of the spelling study, results of tests administered to 4702 pupils in May and 4833 in September revealed:

1. Medians for the total groups tended to be below the national norms, with the exception of one group of twelfth graders.

2. Negative deviation tended to increase with the progress through the grades.

3. The midyear groups (i.e., those that entered a new grade in the middle of the school year) tended to show little or no advantage over the groups half a year behind them.

4. Grades 3 through 6 showed a loss from May to September.

5. Grades 7 through 12 either held their own or gained in the period from May to September.

Definitely convinced that there was a spelling problem, the whole committee instructed the subcommittee on action to study content, materials, and procedures for improvement. Shortly thereafter, the subcommittee submitted the following report, which was to be accepted:

1. Many spelling lists contain words that are not related to needs. These impractical words should be eliminated.

2. The lack of concern and carelessness among many pupils is a factor in the poor showings. It should be stressed that most pupils must expend much effort for even a fair mastery.

3. Good handwriting and good spelling are somehow related; thus emphasis on good handwriting will help.

All teachers should stress proper spelling in all written work.

5. In some cases shorter spelling lessons rather than longer ones probably will help.

6. In the regular English classes spelling should be taught formally every week. (In the secondary area this amounted to an increase of approximately 50 per cent).

7. Spelling papers first should be care-

Mrs. Jones and Mr. Holder are directors of elementary and secondary education, respectively, of the Richmond Ind. city schools.

fully proofread by the pupils, and then checked by the teacher.

8. A spelling textbook should be provided for every pupil.

9. The number and difficulty of words should be adjusted to meet the varying needs of pupils.

10. All spelling principles should be taught inductively, with strong emphasis on the most workable spelling rules.

11. All teachers will help administer the standardized spelling tests, thus further developing the feeling that all teachers should "get in on the act."

12. An effort will be made to learn the methods of schools that are "up" in spelling.

Slight Improvement at First

Subsequently, letters were written to schools that reportedly were "up," but nothing conclusive was learned. Thus the group decided that there probably were no sure-fire methods other than those time-tried ones used by good teachers everywhere. Lack of time devoted to spelling in Richmond appeared to be the main problem, and, of course, the obtaining of the necessary time to improve spelling would demand time from instruction in other parts of language area.

When the results of the third round became available, the committee found some, but not much, cause for gratification. Medians, with the exceptions of the twelfth grade, were still below the norms, but the results did show some little improvement over the first two tests. The size of negative deviations on all three testings continued to increase with the grade progress through the eleventh. Midyear groups still tended to show little or no advantage over groups half a year behind them.

A correlation of .91 was obtained on results from the Stanford and the Metropolitan tests, both of which are dictation tests. The California test is a selection or multiple choice test.

The growth patterns shown in the fourth and fifth rounds of testing were somewhat similar to those of the previous tests, with some over-all improvement but with greater negative deviation from the norm with progress through the grades. However, the last-semester seniors in both instances were above the national norms.

The silver lining was just around the corner, the committee was to learn, and it came with the results of the sixth and seventh tests.

The sixth test showed that the growth during the preceding year exceeded the normal expectancy of one year in nearly every grade, and the achievement record was much better than that of the preceding tests.

Final Tests Gratifying

A total of 5202 pupils were included in the seventh and final test, a number 500 more than were tested in the first round. The results were quite gratifying, growth over the two-year period of the tests being more than two years for nearly all groups. *Spelling competency was satisfactory at all levels; it was outstanding at some levels.*

(Concluded on page 39)

How to Establish a Preventive Maintenance Program

JOHN BARON

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A common troublesome difficulty in school business management is the lack of criteria upon which to base sound decisions concerning school plant maintenance. This is especially true where there is a desire to move forward from the wasteful policy of repairing school buildings only after a failure has occurred to the economical policy of preventive maintenance. A study of representative California school districts has provided findings in a limited area which are definitely useful for general application throughout the country. The study conducted by the writer led to six specific findings:

1. In the school systems studied preventive school plant maintenance has not been given the attention it should have by the administrative staffs.

2. Many of the flaws in schoolhouse design which lead to failures that cause maintenance problems have been perpetuated in new construction year after year, throughout the state.

3. School districts in California and elsewhere need to develop preventive plant maintenance programs for economic and educational reasons.

4. A good preventive maintenance program incorporates (a) inspection schedules, (b) adequate staffing, (c) adequate budget, (d) sound func-

tional organization, and (e) usable records.

5. The most important factor in a successful preventive maintenance program is the development of the preventive attitude among administrative, operational, and maintenance personnel.

6. Too much time and attention were taken from the maintenance budget and service to perform capital expenditure activities.

Four Over-All Policies

The findings of the study suggested four over-all policies for establishing a preventive maintenance program:

1. A clear line-and-staff organization with functional responsibility resting in the hands of a head of the buildings and grounds division of the school business services department should be established and followed. The assistant superintendent-business services is the officer under the superintendent and the school board to whom this unit head should report.

2. A complete maintenance program requires a minimum reporting plan which should summarize the following: (a) work which inspection indicates is to be done; (b) work which has been accomplished by location; (c) work which has been performed on a (1) routine breakdown

basis, (2) preventive maintenance basis, (3) capital additions basis; (d) hours of work to be accounted for versus hours for which accounting has been accomplished; (e) material costs versus materials which have been charged to a specific job, (f) jobs and costs by school and by serial number of equipment or building component; (g) scrap or salvage credit for retired items against cost for replacement items.

The school-business executive needs a record system which permits the easy compilation of periodic reports that will insure success of the preventive maintenance program. He should not keep records, however, which do not lend themselves to operating control.

3. The criteria for determining whether an item should be repaired or replaced necessarily takes into consideration more than the operability or exhaustion of the item. Obsolescence and inadequacy should be considered as well as exhaustion and excessive cost of a repair. These factors can only be computed from adequate records.

Definite schedules for replacement of equipment should be developed in every school district and these schedules should be followed. An equipment inventory and repair records are essential for preparing such schedules

as will suit the needs of each district.

4. Generally, the preventive maintenance program cannot be sacrificed to emergency maintenance considerations. Once the program has been laid down and is actively in use, additional items should be included gradually on the basis of criteria related to educational value, safety, health, and cost. Items which do not meet the safety and health criteria should not be included unless the cost of inspection bears a small proportional relationship to replacement cost. If the cost of the inspection bears a high proportional relationship, no inspection should be scheduled or undertaken. Instead, repairs should be made upon a breakdown basis.

Specific Recommendations

The applicable specific recommendations for administering a preventive maintenance program as given by the study are:

1. The exterior building walls, roofs, and openings should be inspected at least once a year by the maintenance staff and a written report of deficiencies and anticipated breakdowns should be made to the assistant superintendent-business services. The report should state when the inspection was made, the location and nature of the deficiencies, the necessary corrective steps, the estimated amount of time and material to make corrections, and when they should be made. There should be a more frequent inspection schedule of those areas having more frequent repair needs caused by predictable environmental factors and use.

2. Grounds, grounds equipment, walks, paths, drives, parking lots, paved playgrounds, and other outside property should be inspected annually by the maintenance staff. A report similar to that required for building exteriors should be made to the assistant superintendent-business services.

3. Interior building walls, ceilings, openings, floors, and accessories should be inspected at least once a year by a representative of the maintenance staff. In general, electrical items should be inspected by the electrician, plumbing items by the plumber, heating and ventilating items by the heating and ventilating man, painting by the painter, and so on. Where the deficiency is minor, correction should be undertaken in the process of inspection. In cases of a major maintenance deficiency reports should be made out by the inspector so that repair orders can be issued.

4. To prevent breakdown, all buildings and grounds items having a predictable cycle of wear and repair should be placed on an inspection schedule in keeping with this cycle. Exterior woodwork and masonry should be repainted at least every five to seven years. Exterior metal, where rust is an important factor, should be repainted every three to five years. Interior painting should be done at about the same frequency, although ceilings and high walls can probably be allowed to remain without repainting for eight to ten years. Trim, door areas, and lower walls may have to be spot-painted annually.

Teaching Equipment Inspections

5. General equipment should be inspected at least annually by the maintenance craftsman to whom the repair would normally be assigned. Audio-visual equipment should be inspected by the electronics repairman. As a rule it should be replaced within ten years from the time of its purchase. The same rule of thumb may be applied to office equipment and print shop equipment, except that a different mechanic is required for maintenance and inspection. Ordinarily, repainting is unnecessary.

6. Maintenance shop, shop class, gardening, and custodial equipment generally should be inspected at least annually by the maintenance craftsman to whom the repair would be assigned. Replacement of these items usually is necessary before failure.

7. Classroom, gymnasium, cafeteria, and homemaking equipment ought to be inspected annually by the unit head in charge at the school. Items needing repair should be identified and sent with a repair order to the maintenance shops. Replacement, in general, seems to be unnecessary within 15 years. Repainting is rarely needed.

8. Inspection of fire-fighting equipment, vehicles, and vehicle parts, ought to take place at least semi-annually or seasonally by the maintenance craftsman to whom the repair will be assigned. Painting should take place at the initial acquisition if necessary, but should not be required during the life of the items. Replacement should take place within 15 years.

9. All inspection schedules should be kept in written form in the board of education office and in the inspectors' offices. A check system for months of inspection should be used.

10. Repair costs of equipment should not exceed much more than 50 per cent of the replacement costs, or replacement should take place.

An Example

Most city school systems engaging in preventive maintenance follow a similar pattern. Regular inspection and routine repair are undertaken; definite schedules for inspection are maintained by the head of maintenance; instructional materials are bought with attention to upkeep needs.

How does this work in a typical community? Hermosa Beach put into effect the main recommendations printed above. While the results have not been spectacular, there has been a gradual improvement in the work of all concerned. The school buildings are better kept and they show it. Even the immediate neighborhoods in which the schools are located have been spruced up.

The Hermosa Beach maintenance costs are lower for supplies and waste, but the men's wages are higher. Replacement costs were higher during initial replacement year, but are diminishing since the schedule is in force. The problem of overcoming years of neglect cannot be solved in one or two years. School property conditions in Hermosa Beach in 1960 have made spectacular gains over 1956.

Final Considerations

An effective preventive maintenance program begins with the board of education when the plans and specifications for new buildings are accepted. It is discouraging to find that flaws in school design are perpetuated in one community after another simply because the maintenance cost and the constant drain on the repair budget are overlooked in the choice of materials.

The maintenance of school property has an underrated relationship to the quality of the educational product. It has been said falsely that a good teacher can effectively teach without buildings, equipment, and supplies. It is the good teacher on the contrary, who requires adequate buildings and teaching materials that facilitate learning. The goal of maintenance is to put and keep school property in condition so that effective education can be sustained.

In summary, a good preventive maintenance program incorporates minimal inspection schedules, well-defined work schedules, adequate staffing, sound budgeting, functional organization, flexible personnel, and usable records. A successful preventive maintenance program needs the leadership of a competent school-business executive who can develop in the entire school staff acceptance of his policies.

A School Purchasing Guide

DO'S

INTERVIEWS

Do welcome every sales approach. He may have just the product you are looking for to fill an existing need. Do limit interviewing time to the subject matter by restricting conversation to useful information. Getting the most out of every interview eliminates callbacks. Remember your time is valuable.

SPECIFICATIONS AND BID CALLS

Do be complete and one hundred per cent clear in describing your requirements. Without detail, clarity, some bidder suppliers may be in the dark.

AWARDS

Do be prompt in opening bids at the hour specified. Examine all alternate bids to determine why an alternate has been submitted. The bidder knows, do you?

DELIVERIES

Do insist that receiving subdivisions of your school system forward accurate counts on deliveries. A short count can ruin a bargain. Verbal receiving reports are seldom satisfactory.

GENERAL PURCHASING PROCEDURE

Do avail yourself of suppliers' know-how. They are specialists and may have previously heard and solved your specific need problem. Do estimate your unknown volume requirements by methods predicated upon a sound standard. Take the hunch out of buying. Do use standardization to streamline your inventory. Fewer items serving more purposes reduce purchasing operations costs. Do delegate authority within the capacity of your subordinates. Concentrate your own talents on those items which present the greatest area in purchasing economy. Do develop and maintain a current library of specifications, brochures, and vendor directories. An up-to-date purchasing library tells a better story than a telephone call to a supplier.

PURCHASING ETHICS

Do conduct your official negotiations in such a manner that your final action needs no ethical justification. What you do as a School Purchasing Agent must not only be right, but look right.

DON'T'S

INTERVIEWS

Don't deny an audience to a visitor. If you are too busy, offer a later appointment. Remember — you are the school board's official representative in the school merchandising field.

SPECIFICATIONS AND BID CALLS

Don't be brand-name restrictive in your specifications unless you are prepared to prove that no other product can do the job you want. You may be fooled. Don't make specification changes or concessions to one bidder without notifying all bidders promptly. Don't hesitate to prohibit certain technical phases of the product (method of fabrication, fastening devices, paint procedure, etc.), if you are certain that the condition is not desirable. Don't overlook your delivery-time requirements. A good buy is of no value without delivery as required. Don't short-cut bid time. The bidder can make his best offer with ample computation time.

AWARDS

Don't accept bids personally delivered after the bid opening hour. Late bids should be returned unopened as they are of no value to you. A prosecuting attorney has ruled that bids mailed in reasonable time for delivery, and delivered after the bid hour, may be considered as received on time. Don't commit yourself to an award at the time of bid opening unless you have had ample time to fully digest all the fine print in the bid.

DELIVERIES

Don't tolerate down-quality substitution at time of delivery. Sometimes it is better to be late than to be stuck with an inferior product.

GENERAL PURCHASING PROCEDURE

Don't avoid the practice of value analysis. You are a technical man. Use technology to determine value. Don't fail to consult a legal authority in matters of public purchasing methods. He may bail you out before the crime. Don't miss referring to current price and merchandise market trends. A good buy today could be a loss tomorrow. Don't overlook controls on your low-value purchases. Dollars ship away fast on repetitive buying in this class. Don't discourage the trend toward centralized purchasing. American industry won't tolerate it. Washington schools can't afford it.

PURCHASING ETHICS

Don't refuse the crusade to maintain public confidence in Public Purchasing. You can't compromise with the highest standards of ethical purchasing.

The foregoing "Purchasing Guide" was prepared for the members of the Washington Association of School Business Officials, by Mr. W. H. Eister, Director of Purchasing for the Tacoma public schools and is reproduced here with Mr. Eister's kind permission. The basic

purchasing procedure recommended is applicable to any city school system where efficiency and economy are desired and where good relations with vendors are sought and maintained — as they should.

Theme of the 1960 ASBO convention

Education, Economics, and Ethics in School Business

The 46th annual meeting and the Golden Jubilee of the Association of School Business Officials of the United States and Canada was held at the Hotels Chase-Park Plaza, October 8-13 in St. Louis, Mo. Elaborating the theme of "Education, Economics, and Ethics in School Business," speakers touched on subjects ranging from teen-age vandals to African fliers, Russian peasants, and Boris Pasternak.

Derthick: Financial Realism

U. S. Commissioner of Education Lawrence G. Derthick's address (Monday morning, Oct. 10) was marked by a plea that the United States acknowledge realistically education in the financial situation. He advised school business officials to "keep one jump ahead of the emerging developments (new media of learning, etc.) which so vitally affect the cost and character of education."

Today, Dr. Derthick pointed out, trained man power is the basic economic power. He was impressed by the tremendous passion for knowledge that the Russians have: their realization that the race for knowledge is the race for supremacy.

Dr. Derthick stated that we are put-

ting only five per cent of the gross national product into education. Russia, he added, has not the least concern about costs for education, except in terms of investment.

Morley: Hope in Russian Army

Dr. John Morley, newsman, distinguished between the Russian government and the Russian people, especially those in the army, which he called one of the greatest threats to Communism. The number of Christians among the people and in the military is surprising, he noted. They have as exemplars the armies of Argentina, France, Turkey, Pakistan, and numerous others, all of whom have overthrown undesirable political regimes.

Dr. Morley pinpointed three other sound channels of world hope for Russia in (1) religion, (2) education, and (3) the rift in China. But, he insisted, when Communism is crushed, we must eliminate its causes — something that was not done following the defeat of Nazism and Fascism.

Furbay: Criticizes System

After several remarks on the civilizing of Africa, Dr. John H. Furbay, traveler, switched the subject of his address

to Russia. He stated that the U.S.S.R. is 50 to 100 years behind us in most things; incredibly poor food, housing, and domestic conveniences prompted the remark that "They must have a lousy system." The average factory worker gets about \$10 a month; no worker or teacher has an automobile. Few Russian people even know what a bathroom is. Their aviation is far behind ours. "But they have surpassed us in one thing," Dr. Furbay said, "and that is propaganda. They know what the people will swallow."

Proceedings literally got down to business — school business — on Monday afternoon with the first of more than 25 panel sessions. Highlights:

Schoolhouse Planning, Construction

"Schoolhouse Planning and Construction" on Monday afternoon expounded the theme "Education Planning for the Golden Sixties." C. L. Koehler, director of housing, Cincinnati, Ohio, gave a report on Ideas to Develop, discussing spaces and facilities for the schoolhouse area. Koehler stressed that all facilities should be attractive but not extravagant. School facilities planners and purchasers have obligations to the environment.

(Concluded on page 41)

Right: the attentive general-session audience Monday.



Left: hosts and guests at the presidents' luncheon Sunday.



Foster Creativity in the Schools— A Growing Challenge

ELAINE EXTON

Our advancing technology, the exploration of space, the race with Russia for intellectual leadership make it increasingly apparent that a high value will be placed on creative thinking abilities in the years ahead. In the current efforts to improve the quality of education and modernize instruction, consideration of the ways in which the school can best develop creativity in students would be a fruitful subject for local study.

Emerging Needs

As Senator Clinton P. Anderson, Chairman of the Joint Congressional Committee on Atomic Energy, has stated, a nation competing in this aerospace-atomic age "must have oncoming crops of inquiring minds steeped in science (since) only such minds as these can keep the nation permanently in the business of protecting itself militarily while it squeezes out the civilian benefits inherent in (this new) source of energy." The teachers of this generation will need to draw out of these youngsters the thoughts that will make them the Einsteins and the Fermis of the future, he reminds.

Acknowledging that not every student will become a physicist or a mathematician, he explains that this "does not mean that (the school) should not equip all students with a basic knowledge—the very rudiments of the atomic age—and stimulate and inspire the minds of every one of them." Counseling that "from them we then can select the geniuses who may somehow carry on the very advanced work, he urges that "the way be found to discover the potential genius in every child and then

permit him to shove on ahead to the utmost of his capabilities."

The space age will demand varied, extremely complex skills that are not easily come by, advises Dr. T. Keith Glennan, Administrator of the National Aeronautics and Space Administration, who predicts "the benefits of space research and development should prove every bit as far-reaching as those stemming from atomic energy." But, it is now apparent, he warns, that "the nation whose citizens are willing to work to develop their own capabilities to the utmost through education is the nation which will win and maintain leadership in the world of tomorrow."

In assaying what intellectual attributes are most essential to survival "in a society locked in an ideological, scientific and technical struggle with world communism," a forthcoming U. S. Office of Education publication (*Quality in the Undergraduate College*) lists *creativity* among the important intellectual attributes that will decide the issue.

Their bulletin states that "this quality of man's mind is necessary if he is to take maximum advantage of change and is to increase the likelihood of his finding new answers to old and new problems. To the extent he is creative, he is fit for living in a changing environment." Ability to analyze and interpret experience, knowledge of principles, critical thinking, and desirable attitudes and values are the other qualities cited as intellectual attributes with great survival value.

Maintaining Progress

Not only does creative talent underlie science and technology, especially in

their frontier advances, but the rate of our scientific and technological progress is basic to achieving the military strength our security requires and the industrial productivity essential to keep our economy expanding.

A further indication of the growing need for persons with a high degree of training and creativity is highlighted in a recent U. S. Department of Labor study. According to *Manpower: Challenge of the 1960's*, the number of professional and technical workers in America will increase twice as fast in the decade ahead as will the labor force as a whole even though the nation's labor force is expected to grow from about 73½ million in 1960 to roughly 87 million by 1970, the largest increase in the number of workers for any 10-year period in our history. The rise in technology, moreover, will bring about changes in manpower utilization that will make necessary a greater amount of adaptability in a wide range of occupations compared to the need for this factor in the past.

The constantly quickening pace of scientific and technological development, according to inventor David Sarnoff, Board Chairman of the Radio Corporation of America, means that we live in a time of rapid obsolescence, that our advancing technology impinges not on just a few selected areas but on virtually every form of human endeavor. Predicting that changes of which we are as yet unaware will be too swift and too numerous to be fitted into accustomed ways, he says these will compel far-reaching adjustments right down the line.

Thus, as mindpower becomes a decisive resource, "our human engineering must catch up with our technological engineering, our understanding of man with our understanding of the physical universe, our efforts to reach international agreement with our efforts to reach the moon. . . . The current emphasis on the training of gifted young people in technical and scientific fields should not obscure the equally vital need for men and women of exceptional competence in the understanding of (our) society (and the historical forces that have shaped it)."

Extending Freedom

As automation and other technological inventions become more commonplace in industry, Government, school, and home, the practice of creativity needs emphasizing both to offset whatever negative impacts mechanization may have on the individual and to help him upgrade his skills and his capacity to adjust to new conditions so that he

*Social Studies for the Academically Talented Student, NEA Project on the Academically Talented Student, Washington 6, D. C., pp. 77 and 7.

can perform effectively in an automated setting.

To compensate for the diminished personal drive, loss in opportunities for initiative, and sedentary living habits that can stem from machine activities, it is increasingly important that the additional leisure time technology brings is used productively and in a creative fashion. Accentuation of the positive — of activities which build, replenish, and restore — are needed, too, to furnish the sense of security and assurance that will make possible wholesome living and constructive action in a world threatened with destruction.

If we are to keep and extend freedom in the world, American education must strive to free and foster the creativity and inventiveness of each individual. This is essential not only to assure that the oncoming generation will be skilled in exercising the freedom of choice that is a hallmark of democracy but to counteract any tendencies toward forcing conformity on the individual which can lead in the direction of an authoritarian society.

To push out the boundaries of knowledge, to achieve great break-throughs in science, explore the vast and mysterious realms of space, and to progress in human affairs will require not only trained individuals who are able to think through complex problems and conceive imaginative plans but the qualities of mind and character that enabled the frontiersman of an earlier day to survive and create a civilization in an unknown wilderness.

America still has critical need for self-reliant citizens of daring and courage, with inquiring minds eager to grapple with the unknown and the initiative to blaze the important new trails of the future. But there are some disquieting signs that in some respects today's schooling may be more geared to producing citizens with the conforming personality of the "organization man" than with the independent, venturesome spirit of the pathfinder.

Measuring Creative Characteristics

"The average classroom teacher, faced with the need to instruct simultaneously a large number of pupils, usually has been inclined to stress *convergent thinking* which arrives at the one 'right' answer," relates a U. S. Office of Education press release which emphasizes that "we must also provide the conditions which will help teachers to encourage *divergent thinking* — the type of mental activity which spells resourcefulness in meeting our problems."

The distinction between *convergent thinking* in which intellectual activity is channeled toward a single answer that is assumed to be the only right "one" and *divergent thinking* where "there is

freedom to go off in different directions," to reject the single answer and to seek others which also may satisfy the situation or even be superior is developed in research by Professor J. P. Guilford of the University of Southern California who considers that American education "has emphasized abilities in the areas of *convergent thinking* and evaluation, often at the expense of development in the area of *divergent thinking*."

Both kinds of talent are sufficiently important to warrant attention in educational theory and practice in the opinion of professors Jacob W. Getzels and Philip W. Jackson who warn that "failure to distinguish between convergent and divergent talent in our schools may have serious consequences for the future of our society."

According to recent research conducted by these two University of Chicago educational psychologists, "there is little doubt that the ability for what has been called divergent intellectual activity (creative talent) is not well sampled by the usual intelligence-test items," nor is teacher preference a completely dependable means of identifying the student with high potential. They are hopeful that the time may not be far off when measuring other qualities of giftedness as well as I.Q. will be common practice.

In searching for significant variables that differentiate the "creative" from the "intelligent" person, their study, which was supported by a grant from the Cooperative Research Program of the U. S. Office of Education, examined the achievement motives, fantasy productions, school performance, and teacher preference of two types of adolescents: (1) those exceptionally high in creativity but not in I.Q., and (2) those exceptionally high in I.Q. but not in creativity. So as to isolate these two qualities, young people excelling in both these areas were excluded from their survey.

The 26 "highly creative" and the 28 "highly intelligent" participants were identified through extensive testing of the 449 students comprising the total population of a midwestern private secondary school (the University of Chicago Laboratory School). In comparing these two groups with each other and with the student population from which they were drawn Getzels and Jackson found:

1. Despite the striking differences in mean I.Q., the creative and the intelligent groups were equally superior to the total population in school performance as measured by standardized achievement tests.

2. Although it might be expected that creativity would contribute to status in a school setting, especially since the achievement of the highly creative pupils was at least as good as that of the highly intelligent students, it was actually the intelligent group rather than the creative group that was preferred by teachers when compared with the average student.

3. There were significant differences in fantasy productions. The creative group made greater use of stimulus-free themes, unexpected endings, humor, incongruities, and playfulness.

A further study of the occupational choices and career aspirations of these two groups of students showed:

4. The high I.Q. child holds to a self-ideal consonant with what he believes his teachers would approve. The creative child shows a negative correlation with such a model.

5. When the occupations mentioned by the two groups are analyzed into conventional (lawyer, doctor, professor) and unconventional (adventurer, inventor, writer) categories, the creative children give a significantly greater proportion of unconventional occupations than do the high I.Q. students.

Analyzing the findings in terms of *convergent* and *divergent* thinking, Getzels and Jackson report: "The high I.Q. adolescents tend to favor 'convergent' modes of problem-solving, and the high creativity adolescents tend to favor 'divergent' modes of problem-solving, whether in the cognitive function represented by performance on the intelligence and creativity tests, or in the personal-social function represented by occupational and career choice."

They further state: "It seems that the essence of the performance of the high-creativity adolescents lay in their ability to produce new forms, to risk conjoining elements that are customarily thought of as independent and dissimilar, to 'go off in new directions.' The creative adolescent seemed to possess the need to free himself from the usual, to diverge from the customary behavior; he seemed to enjoy the risk and uncertainty of the unknown. In contrast, the high-I.Q. adolescent seemed to possess to a high degree the ability and the need to focus on the usual and to be 'channeled and controlled' in the direction of the right answers, the socially accepted solution."

Other New Research

Stressing that "there still is a very large problem of comprehending and identifying creative potential," Calvin W. Taylor, Professor of Psychology at the University of Utah, in his summarization of findings presented at three National Research Conferences on "The Identification of Creative Scientific Talent" financed by the National Science Foundation, also emphasizes that results thus far indicate creative talent is not measured well by the use of traditional intelligence tests which "cover only a very few of the large number of dimensions of the mind discovered to date."

There may be several other types of intellectually gifted than the I.Q. type, he notes, even though the I.Q. type may be closely tied to current academic activities and to the grades that measure success in the academic world.

Many of our present organizations,
(Concluded on page 44)

**the
AMERICAN
SCHOOL
BOARD
JOURNAL**

William C. Bruce, Editor

IS DISTRICT REORGANIZATION HALTED?

THE reorganization of school districts, particularly in the East and Middle West States seems to have come to a halting point from which further progress is almost impossible without redirection and a new set of goals actualized in legislation and local action. Back in 1931-32, the U. S. Office of Education reported the existence of some 127,420 school districts; this number was reduced to 70,990 in 1951-52, and to 54,770 in 1955-56. Since that time the number has been further reduced to about 42,429 in 1959-60.

The latest figures released by the Bureau of the Census show that the 1959-60 reduction has been negligible. Perhaps the actual number of consolidations and reorganizations is not so important as the failure in some states to set up in the legislatures for reorganized districts high standards of effective educational services. There is strong evidence that the newest research findings concerning correct totals of population and school enrollment which will give assurance of instructional efficiency within a district have been neglected. Except in the most sparsely settled areas of underdeveloped portions of the country, there is little excuse for school districts with as few as 50 or 100 pupils. The continuance of some 7000 district organizations which conduct no schools but persist in maintaining a school board is little short of a disgrace.

It must be said that the thinly populated sections of the Middle West and Western States are less deserving of criticism than the areas surrounding the medium size and large cities where there are perfect mazes of political governments, headed in number at least, by the school districts. There is need in practically all of these metropolitan and quasimetropolitan areas for a complete reorganization of governments, and a consolidation of school districts. Such centralizations are the only possible means of cutting down waste and duplication, of eliminating unneeded officials, of leveling costs and financial inconsistencies, and of providing better uniformity of curricula and teaching programs. It is disheartening to find in generally prosperous areas, rich districts with fine buildings and well-balanced educational programs, right next to poor school districts with distinctly inferior schools in spite of maximum efforts of local support.

One of the legislative projects for state school boards associations is a re-examination of school district organization and a comparison of the reorganization standards with those set up by the more progressive states. If the school boards will nudge their state education departments into action and give leadership to county or local organizations of school boards and administrators much can be accomplished. It seems unwise to devote so much attention and effort to federal aid legislation when so much remains to be done on the local and state levels.

THE MOST IMPORTANT FACTOR IN EDUCATION

IN THE current discussion of education, which urges the use of new devices and presents criticisms of the panacea of the earlier decades of the twentieth century, it is interesting to reach a conservative view of the situation in which the teacher is again made the center of educational success and progress. In the report of the joint curriculum survey committee of the University of California and Stanford University, there appear these paragraphs:

The teacher is the most important single factor in making education effective. The professional status of the public school teacher is low in the United States, partly because the public still does not sufficiently value academic attainment, partly because low pay, overwork, state law, and the prevailing educational philosophy make it extremely difficult for a teacher to become, or to remain, a highly educated person. The result is that too many people regard the teaching profession as a stopgap or last recourse, and too few enter it with a genuine sense of dedication. To improve the situation, the profession must be made more attractive to the sensibly ambitious, to men and women possessed of intellectual and social vigor, of strong character, and of superior intelligence. For such people now to choose public school teaching in preference to business or the professions, means a considerable financial and social sacrifice. There are unquestionably many fine people teaching in the public schools but it cannot be overlooked that there are others who are there primarily because the competition is less keen than elsewhere and the job can be made easy. We may need to rely less on "dedication" and more on practical attractions, just as do business and the professions—and as do the skilled occupations which steadily draw many of the abler and more enterprising teachers away from their chosen work.

We most strongly recommend that every possible step be taken to make the career of teaching in San Francisco schools more attractive. Academically trained teachers should be given preference over people not so trained in the selection of administrators; and they should be able to attain a salary comparable to administrators' salaries even if they choose to remain in teaching. Salary schedules should be raised at the top, made more flexible, and geared to merit increases. We recommend establishing the rank of Master Teacher with a salary at least as good as an assistant principal's.

TEACHERS' STRIKES

THE New York strike which was begun on November 7 by the United Federation of Teachers, against the New York City schools, and ended after the first day, indicates that we are entering on a new phase in the relations of boards of education and their organized teaching staffs.

Until most recently, it was the common opinion of teachers' associations, as well as boards of education, that teachers are strictly professional groups, and that they have a relation to the board of education similar to that held by police and other public safety officials. Under this point of view, teachers are not privileged to strike but must use less drastic means for achieving their ends in seeking higher salaries and subsidiary benefits.

The New York City strike happily ended the day after it began. It provided evidence that, after all, a majority of the teachers have a respect for the existing New York State law, which prohibits teachers from striking.

As Dr. Wm. Kilpatrick wrote in the *New York Times*, "teachers should accept an even stronger moral pledge than policemen to obey the law forbidding striking, because any antagonism on the part of teachers cannot fail to have a serious effect on their pupils. As one who has given his life to the teaching profession, I cannot fail to express my deep regret for any failure to live up to the highest standards of the profession."

The New York strike threw the school system into turmoil for a full day. It caused serious harm.

Why many school administrators welcome bottled soft drinks



Many school systems have awarded soft drinks a place in food and refreshment facilities. There are three basic reasons:

1. DIETARY VALUE: Soft drinks are accepted in dietetic planning as an "accessory food." Like relishes, they accent the diet healthfully. Thus they add flavor and variety to menus that otherwise may seem routine.

Soft drinks provide 100 calories of food energy per 8 ounces in easily assimilable form—a helpful contribution during the school day to pupil alertness and interest.

2. WHOLESOMENESS: As you

know, the body loses 2½ quarts of fluid each day. Soft drinks help restore body fluid balance. Carbonation adds zest and palatability. In addition, soft drinks aid digestion and stimulate appetite. Because they are liquid, soft drinks pass quickly through the mouth, with virtually no involvement in oral conditions related to dental problems. Recent dental research reaffirms this thinking.

3. SOCIAL VALUES: Availability of soft drinks within school limits at lunch time, and at social events encourages youngsters to stay on school property. Soft drinks can be an important aid in

fostering desirable behavior patterns. Social activity is more readily supervised and promoted.

These are some of the reasons why soft drinks have a place in the food and refreshment facilities of our schools where bottled beverages are easy to store, handle and serve economically. If the subject of soft drinks in schools comes before your Board, talk it over with your local bottler. He's a tax-paying businessman of the community, dealing in products which contribute to the local economy in the same way as other food products served on school premises. He's entitled to a fair hearing.

Let us send you more complete and thoroughly documented literature on the food, health and social values of bottled soft drinks. Write:

American Bottlers of Carbonated Beverages

Washington 6, D.C.

National Association of the Bottled Soft Drink Industry—a non-profit association of manufacturers of bottled soft drinks, with members in every state. Its purposes: to promote better understanding of the industry and its products, and to improve production and distribution methods through education and research.

N. S. B. A. REPORT

NSBA Board of Directors Tackles Basic Educational Issues

MAXINE PINSON
Editor, NSBA Publications

Every NSBA director from every region of the nation participated in the October 20-22 meeting of the NSBA Board of Directors in Denver, Colorado, called and presided over by President Roy O. Frantz.

At this first full board meeting of the 1960-61 year, the directors wrestled long and hard with the fundamental issues that confront all boards of education, all the state associations, and the national leadership. In this probing session, the directors deliberated with deep respect for the democratic structure of the Association, which is a federation of the fifty state school boards associations, functioning under policies established by the NSBA Delegate Assembly.

The directors sought ways to tap the "grass-roots" strength of the organization, so that the entire official family could be informed of the concern of the national leadership and, together, could determine how best to deal with issues that cannot be wished away — and may, if decisions are abdicated to other groups, involve the very survival of state and local control of education.

Issues Highlighted by PAAC Report

The basic problems which the board weighed were signally highlighted by the report of Robert V. Harry, chairman of the new Program and Activities Advisory Committee. This committee had also employed the "grass-roots" method of deliberation, for its membership includes representation from the state association executive secretaries and presidents, and from the four corners of the country.

Chairman Harry reminded the Board of Directors, on behalf of his committee: "Our instructions . . . were to look at the long-range goals of the NSBA and to make recommendations to the Board of Directors that would support these goals." The recommendations submitted by the committee are of such far-reaching significance and immediate importance to the entire association that the NSBA officers and directors took

action to get the official minutes of the Program and Activities Advisory Committee August 13-14 meeting into the hands of the state association leaders.

Implementing their will to act democratically and to counsel with the entire official family and establish mutual understanding, the NSBA Board unanimously carried motions to make the minutes of the Program and Activities Advisory Committee a part of the official minutes of the October 20-22 meeting of the Board of Directors, and to distribute four copies of these minutes to the executive secretary of each of the fifty state school boards associations.

Another new committee, appointed to explore and recommend board procedures, presented through its chairman, Dr. H. C. Willett, samples of general portfolios which are being developed to expedite the functioning of each board committee. These portfolios will show the authorization of the committee, its membership, how it is organized, the committee assignment as it appears in the record, plus other information of value to the president, the Board, and headquarters staff. The developments of this committee, based on thorough study of past procedures and recommendations for the future, promise greatly to facilitate the efforts of each board committee to aid the performance of the national association.

Individual responsibility keynoted a code of ethics presented to the group by Mrs. J. F. Lucas, chairman of the Code of Ethics Committee. The code, developed out of much deliberation and consultation, takes the form of a concise statement of the responsibility that should motivate a board member — even before selection for or election to this high office.

Arriving by air, rail, and highway, the NSBA Board met with 100 per cent attendance. Present were: President Roy O. Frantz, Colorado; officers and directors: Joseph Ackerman, Illinois; W. H. Egeln, New Jersey; Robert V. Harry, Connecticut; Cyrus M. Higley, New York; S. V. Jackson, New Mexico;

Keith M. Lesh, Alaska; Mrs. J. F. Lucas, Nebraska; George B. Morse, Arizona; Mrs. Edna L. Paul, Minnesota; Mrs. Don R. Printz, North Carolina; Robert H. Reed, Delaware; W. L. Robinson, Georgia; Theodore C. Sargent, Massachusetts; Mrs. Floyd L. Smyder, Missouri; Matthew R. Sutherland, Louisiana; J. V. Vittitow, Kentucky; Donald B. Whiting, North Dakota; Robert E. Willis, Florida; Dr. H. C. Willett, California. Headquarters staff was represented by: W. A. Shannon, Dr. Harold V. Webb, and Maxine Pinson. Boris Lorwin, of Glick & Lorwin, Inc., public relations consultants to the NSBA, met with the group as counsel to the Board of Directors.

At the request of President Roy Frantz, one of whose main objectives is to strengthen co-operation between the national and state associations, the state association executive secretaries were represented at the meeting by their president, Dr. Lawrence B. White of California.

Colorado Hospitality Abundant

Welcome balance to the struggle with weighty problems was provided by the generous Colorado hospitality extended to the NSBA Board and guests. The Colorado Association of School Boards planned a special premeeting dinner for the directors, which was attended by twenty-nine of the state's educational leaders, including all members of the CASB Executive Committee. At every turn, during their stay in Denver, the national directors enjoyed a generous foretaste of the warmhearted, open-armed hospitality that awaits board members of the nation and their guests when the 1963 Annual NSBA Convention will be held in Denver, Colorado.

Hospitality arrangements, which required a great deal of advance planning and co-ordination, were carried out under the direction of William Conklin, executive director of the Colorado Association of School Boards. He was aided by the unstinting help of these, among other, dedicated co-workers: Mrs. Dorothy Romans, Englewood School Board president; James L. Taylor, president, Colorado Association of School Boards; William Bishop, Englewood superintendent of schools; and Amory Beede, member of the Northeastern Junior College Committee at Sterling, Colorado, and regional vice-president of the CASB.

Much was accomplished in mile-high Denver at this October meeting of the full NSBA Board of Directors to foster and encourage a more productive working relationship between the national and state school boards associations. It is anticipated that the state executive secretaries and presidents will read carefully, study seriously, and use the complete minutes of this meeting. Clearly, the way is open to release the power of this democratically structured association, with all of its components functioning, to face basic educational issues realistically and voice its will through enlightened leadership. ■

SCHOOLS AND GOVERNMENT

(Concluded from page 11)

that many of the suburban "newcomers" expect improved services—quality and quantity, in other words. This is not a new expectation from the standpoint of the educational administrator or the average school board member. But realization that many suburbanites also expect good roads, excellent police protection, good fire protection, and superior public health services dramatizes the range and intensity of demands placed upon the local financial resources.

Burden on Property Owner

These pressures are registered most directly upon the local property owner. In an effort to seek relief, appeals for sharing this burden have been made to the state and federal levels of governments. In most metropolitan areas various kinds of state level aids have been received by local units of government. Some school districts are receiving substantial assistance from state funds. But any tax relief received from outside assistance by one local unit of government is quickly absorbed by the burgeoning demands of other local units. Competition for local revenue sources grows in intensity.

Obviously, the total complex of local government arrangements assumes importance when school district reorganization is considered. No plan for local school government can be formulated without thoughtful examination of all other local governments within the area. The extensive interdependency, the overlapping, the competition, the inefficiencies suggest the need for considering some plan for studying local government, one important part of which would be school district organization.

Some Directions

This writer has been impressed with how well local governmental frameworks have performed. Despite shortcomings, inefficiencies, and unresponsiveness, things go along—taxes are collected, permits are issued, deeds are recorded, licenses are granted, elections are held, petitions are recognized. The county courthouses of the country, many of them dingy, unpainted landmarks, are the centers of vital public services, as are the municipal buildings and township halls throughout the land. People get sewers and roads and schools—eventually.

But the fact of getting by does not

excuse citizens from trying to make the system better. Nor is the fact that the business of government somehow gets done any assurance that there will not be breakdowns in the system.

Many Plans Available

There are many plans for improving local government. Political scientists spend their lives studying ways to make local government more efficient. Blueprints have been drawn for increased centralization, widespread consolidation, improved co-operation, strengthened counties, and special intermediate districts.

This writer's thought is that local school board members and local school administrators consider the problems of school district organization within the total framework of local government. He would hope that any plans for altering school district arrangements would include provisions to study the relationships between school services and all other public services. He is not proposing the abandoning of the independent school district nor the reducing of the autonomy many school districts prize so highly. He is proposing, though, that local school districts discard the shackles of "isolationism" that have characterized their behavior in the past.

Not in a Vacuum

School districts do not exist in an economic, social, or governmental vacuum. As local units of government they are inextricably enmeshed with a host of other public as well as private interests. School districts along with other local governments in urban America are in competition for two kinds of support—one is financial and the other might be characterized as "attitudinal."

Although the system of local government in America is imperfect, the public interests in time are served. The system can be improved upon, however; numerous plans exist for its modification and improvement. Local school district officials should be aware of the plans that have been formulated for broad reorganizations of local government that might affect local school districts. Likewise, any plans for reorganizing local school districts should include substantial study of the total pattern of local government. School districts cannot profit by maintaining an "isolationist" attitude. School district officials should consider school needs and issues as one part, albeit a very important part, of the broad public need. ■

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NEW BOOKS

School Board-School Attorney Relationships

By K. Forbis Jordan and David D. Davison. Paper, 10 pp. Indiana School Boards Association, Indiana University, Bloomington, Ind.

Attorneys employed by Indiana boards of education render services which range from attendance at meetings and routine opinions on school law matters to representation in litigation before the courts. Perhaps the most important and far-reaching advice, in terms of the sums of money involved, is in the step-by-step tasks of issuing and selling school bonds. Litigation which is comparatively infrequent revolves around condemnation proceedings, teachers' contracts, and taxpayers' suits.

A survey of school board-school attorney relationships, conducted by the Indiana School Boards Association, indicates a wide variety in the amounts paid to attorneys. The survey report, in the first section, deals with the nature of the formal relationships which exist between the school boards and their attorneys. The second part takes up the compensation for advice on bonds issued by school corporations, and discusses the types of litigation in which the school corporations have been involved, and the method used to reimburse the attorneys for their services in these litigations.

The majority of school attorneys who were not on an annual retainer basis were paid a fee for each service rendered and a percentage on the total amount of the bonds issued. A total of 24 districts reported that they paid their attorneys on a fee-and-percentage basis. The next most popular method of payment was the straight fee basis. It was reported that 78 of the respondents had no policy manual under which compensation for the attorneys was established. School board associations in all states can render a major service through similar studies.

Statistics on Special Education

Paper, 154 pp., \$2. Columbia University Press, New York 27, N. Y.

This is the second statistical report sent out by Unesco, devoted to the special education of handicapped and atypical children. It lists the number of children receiving special education, types of special education provided, level of education provided in special schools, and other data descriptive of pupils in special education.

Promising Practices in Elementary School Mathematics

By Ronald C. Welch. Paper, 54 pp., \$1.25. Bulletin No. 4, July 1960. School of Education, Indiana University, Bloomington, Ind.

This bulletin is intended for teachers who seek to help their pupils to develop a breadth and depth of understanding in mathematics and to break out of the narrow limits of mere accuracy and speed in computation. The practices described are taken from actual classroom situations in selected Indiana schools. Preceding each topic is a summary of research findings, principles, and points of view related to modern school mathematics programs. The "promising practices" suggest better work in developing in pupils (1) modern problem-solving ability, (2) vocabulary and reading skills, (3) making and using graphs, (4) using instructional aids and bulletin

boards, (5) integrating mathematics with other subject areas, and (6) using units of enriched work in mathematics.

City Government Finances, 1959

Prepared by Allen D. Manvel. Paper, 81 pp. Bureau of the Census, U. S. Department of Commerce, Washington, D. C.

This report shows that the total revenue of municipalities for 1959 amounted to \$13,748 million, or 7 per cent more than the total of \$12,832 million in 1958. Education, it was noted, takes a larger share of city expenditure than any other function. The total for education in 1959 was \$11,093 million, or 6 per cent more than the total of \$10,442 million in 1958.

Cost and Quality in School Transportation, 1959-60

Prepared by George E. Holloway, Jr. Paper, 19 pp. Western New York School Study Council, Buffalo 14, N. Y.

This report of the Western New York Study Council provides a description of the basic problem, the efforts of the committee members over the past three years, and a summary of the findings. The report brings out that there are variations in local needs and conditions which prevent great reductions in cost. In some cases, it was noted, it might be more economical to contract for buses rather than own a fleet. In some cases it was deemed more desirable to schedule more than two trips per bus each day, or to arrange a circular route in which pupils are deposited at several schools along the way. The report is a fine guide for school officials interested in the subject.

Organizing the School Maintenance Program

Compiled by R. N. Finchum. Paper, 98 pp., 50 cents. Superintendent of Documents, Government Printing Office, Washington 25, D. C.

This bulletin deals with efficient practices and procedures involved in the day-to-day care or operational services of school plants. Some of the important aspects taken up are: (1) providing in-service training, (2) developing personnel policies, (3) programming for maintenance needs, (4) financing a maintenance program, (5) reducing maintenance costs, and (6) planning preventive maintenance. A number of charts and tables are included.

Playgrounds: Their Administration and Operation

By George D. Butler. Cloth, 513 pp., \$7. The Ronald Press Co., New York 10, N. Y.

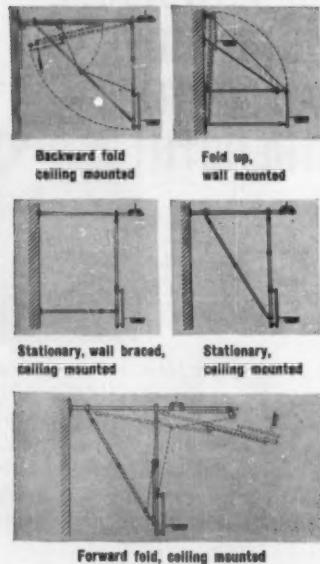
This is the third completely revised edition of a book which has been a standard textbook for playground supervisors and directors. It takes up all aspects of organizing and administering public playgrounds in a wide variety of situations and for groups ranging from small children to oldersters. The approach is that of making available to the reader the basic definitions of recreation and playground use, as well as definite principles of organization, financing, annual and long-range programs, and day-to-day operation. The revision brings into focus present-day practices and tendencies which must be understood.

The author shows a strong preference for the control of playgrounds by an agency of the municipality or county. He overlooks, in the reviewer's opinion, the educational advantages flowing from the co-operative school-district and municipal management of play programs, and the utilization of the physical education staff.

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SPELLING PROGRAM

(Concluded from page 27)

After assessing its work with pride, the committee decided to administer two more tests, spaced at semester intervals, before concluding its work. Results of the eighth test were not as gratifying as the seventh, but the ninth and final test produced the best performance of the series.

The accompanying table shows, to explain one part, that the third grade made a median of 2.9 on the early test and that three years later the same children as sixth graders made a median of 6.4 for a growth of 3.5 years in the interval. A further inspection shows median scores at or below norm on the early test and medians at or above norm on the final test, with three or more years' growth for each group.

In the case of the 10th, 11th, and 12th grades on the final test, more than half of each class made the top score, 11.0; therefore, the results did not yield a true median. For this reason the growth from seventh to tenth grade, for example, is indicated as 4.0+, or four or more years in the three-year period.

GROWTH BY GRADES IN THREE YEARS

Grade	Early Test		Final Test		Growth
	Median	Grade	Median	Grade	
9	8.4	12	11.0+	11.0+	+2.6+
8	7.5	11	11.0+	11.0+	+3.5+
7	7.0	10	11.0+	11.0+	+4.0+
6	6.1	9	9.4	9.4	+3.3
5	5.1	8	8.6	8.6	+3.5
4	4.2	7	7.2	7.2	+3.0
3	2.9	6	6.4	6.4	+3.5

The committee summarized activities over the three-year period. There had been ten general meetings, and subcommittees on plans and action had functioned. Individual textbooks had been added in the secondary level; marks in spelling had been added to report cards in the junior high schools; the school system had become spelling conscious, and all teachers, not only those in English, had helped bring spelling out of the doldrums.

The gain should hold when new teachers come into the system, because course outlines now carry the prescription to keep spelling from falling to the place it was only a short time ago. New teachers, especially, are informed of Richmond's concern and experience with spelling.

Would Richmond recommend that even more time be spent on spelling there than is being spent now? No, it is felt that a school system reaches a point of diminishing returns very soon when it stresses a subject like spelling to the point of overlearning, thus taking much time from other subjects. A system should strike a reasonable balance.

The time the experiment required was worth the effort. No one will deny that communication is one of the basic skills pupils must seek, and contributing to that skill is a reasonable proficiency in English spelling. ■



Richland Township School, Allegheny County, Pa., constructed with Rilco laminated wood beams and columns up to 44' in length. Architect: Altenhof and Brown, Pittsburgh, Pa.



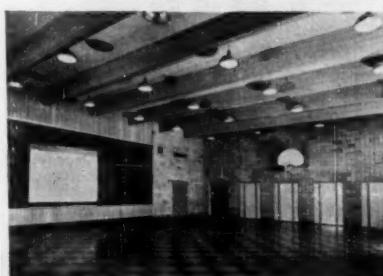
RILCO Laminated Wood Gives School Extra Beauty Plus Low Cost Bonus

In addition to the warm natural beauty of laminated wood beams, the new Richland Township School, Allegheny County, Pa., received a bonus—it was constructed for the 4th lowest per pupil cost of all elementary school buildings during that year.

An important factor contributing to this economy was the Rilco laminated wood structural members used—the initial cost was low, erection by regular work crews fast and easy . . . and upkeep expenses are minimum. Add to this economy the special warmth and beauty of Rilco wood that makes youngsters and instructors alike feel at home.

All good reasons why each year more and more school buildings are constructed with Rilco laminated wood. Rilco service engineers will be happy to consult with you and your architect, without obligation.

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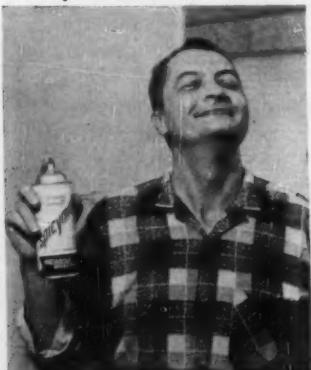
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That extra something that makes our every day maintenance work a bit easier — and more efficient.

Time and again, over the years, we've found an Acme Chemical product that suited us fine for a particular chore. Then they'd surprise us by adding something that made a good product even better — with no raise in price.

Take their Spicymist®. Spicymist is their glycolized aerosol deodorant. We all liked its delightful fragrance and the way it solved tough odor problems in our

lavatories, locker rooms and classrooms. We found the second shipment even more effective — odors were gone from a room in seconds — because of a costly new ingredient just developed. Told us it was meelium which chemically neutralizes odors faster than anything else available. Their cost went up but we pay the same price as before. That's the *plus* in their quality.



Spicymist, one of 80 fine products made by the Acme Chemical Company, also reduces airborne bacteria — a comforting thought during the flu season. Ask your Acme Man for a demonstration.



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PERSONAL NEWS

CALIFORNIA

Supt. Bruce K. Moore, of Phoenix, has resigned to accept the superintendency of a newly unified district in Downey, Calif.

COLORADO

Dr. Byron W. Hansford has been appointed state commissioner of education.

ILLINOIS

Dr. William M. Staerkel (Ed.D.) has joined the nationwide management consulting firm of Booz, Allen & Hamilton as director of school administration services in the firm's Educational Administration Division. Dr. Staerkel has been superintendent of the Arcadia, Calif., schools for the past three years. He will work in the company's Chicago office.

Thomas L. Marshall has been elected president of the Chicago board of education, to succeed R. Sargent Shriver. Mr. Marshall will complete the remainder of Mr. Shriver's one-year term.

Frank Washam, director of lunchrooms for the city of Chicago, has retired from the school service. He was one of the best known officials in school food service for more than 25 years. When he joined the Chicago board of education in 1935 the 41 high school lunchrooms in the city did an annual gross volume of \$508,000. On the day he retired there were 56 lunchrooms in high schools and 223 in elementary schools in operation, with an annual volume of business in excess of seven million dollars.

Mr. Washam contributed to the passage of the National School Lunch Act whereby federal aid became available to make the school lunch a more adequate program. Later he had a part in the enactment of the Federal School Milk Program.

MINNESOTA

The St. Paul firm of Hammel & Green, architects and Engineers, Inc., has named Robert W. Gish vice-president of the company and chief engineer of the newly opened engineering section. ship in Reading.

NEW JERSEY

Chester R. Streup is the new superintendent at Princeton.

Mark C. Wayne is the new superintendent at East Paterson.

NEW YORK

The Educational Research Services, Inc., has been established at 124 East 40th St., New York City, with Francis G. Cornell, Frank G. Lopez, and Curtis Roosevelt acting as educational consultants.

TEXAS



Dr. Andrew Maghilo, M.D., a member of the Dickinson Independent School District Board of Education, has been elected to the Executive Committee of the state Association of School Boards. He is a former board member of the Dickinson Little League and is an active leader at present in boy scout work. Dr. Maghilo received his medical degree from the University of Texas and has been practicing medicine in Dickinson for the past fifteen years.

ASBO CONVENTION

(Concluded from page 3)

Maintenance and Operations

In an animated Maintenance and Operations discussion session on Monday afternoon, representatives of gas, coal, oil, and electric associations bantered about the merits of each concerning the theme, "The present and future status of gas, coal, oil, and electric fuels for heating school buildings." Although each of the fuels offers special values for the school board to consider, the location of the district and the type of design incorporated were recognized as the two prime factors in selecting the most effective fuel source for a new or remodeled school plant.

Accounting and Finance

"Accounting and Finance" on Tuesday morning treated the effect of this field on the community. Col. W. M. Albergotti, co-ordinator of fiscal affairs, Greenville County, S. C., Schools, talked on Public Understanding by Acquainting Taxpayers with the Financial Operations of Their Schools. He insisted that the public will respond to school needs if informed of all the facts.

The question, Where Is the Money Coming from to Finance Future Education in the United States and Canada? was discussed by Dr. H. Thomas James, associate professor, School of Education, Stanford University, and J. Allen Thomas, School of Education, Stanford. Dr. James put forth a strong plea for immediate federal aid in the United States. Thomas talked on school finance in Canada.

Purchasing and Supply Management

"Purchasing and Supply Management" on Wednesday afternoon treated four topics. William G. East, member of the National Association of Purchasing Agents and associated with the Montesano Chemical Company, St. Louis, Mo., discussed "Value Analysis and Standardization." Small, commonly used items, he indicated, can save a great amount of money if standard, as opposed to specialized, parts are used in machines.

In a brief speech on "Preparing Specifications in Relation to the Use of Tests," Dr. Alden F. O'Hearn, director of purchases, Chicago, Ill., stressed that the buyer should decide what he needs and wants before he makes a purchase.

Patrick J. Williams, superintendent of buildings and grounds, Burlington, Vt., spoke on the "Testing of Classroom Furniture." He outlined several pertinent questions that will help the buyer, such as, Will the unit meet the purpose for which it is used? Will the pupils' needs be met by the unit?, etc.

The concluding paper at this session by Louis Lichenstein, Milford, Conn., on the "Testing of School Supplies." He proposed sound but simple methods of testing various types of paper, crayons, paints, water colors, and brushes.

The President's Address

President G. Alvin Wilson, Oak Park, Ill., in his address to the 1960 group, pointed with pride to two accomplish-

ments: (1) the forthcoming "History of the ASBO in the United States and Canada," and (2) the publication of the "School Business Administrator," a study of "qualifications and responsibilities."

President Wilson noted seven projects that are under way or that need to be started soon, including the publication of several handbooks; certification of school business officials; university training courses for teachers; business consulting firms in education; and the ethics of the teaching profession.

New Officers

New officers in the ASBO include Herschel S. Brannen, Houston, Tex., president; Joseph P. McElligott, San Francisco,

Calif., president-elect; Everett Zabriskie, Nutley, N. J., vice-president; Gray N. Taylor, Syracuse, N. Y., director for another two year term; Robert H. Ross, Toledo, Ohio, director for a two-year term. Continuing as directors for another year are Frederick W. Hill, Minneapolis, Minn., and Herman J. Blackschmidt, St. Louis, Mo.

Registration for the convention included approximately 1200 active members and school board members. The usual complement of guests and exhibitors swelled the attendance to well over 1600.

The 1961 ASBO meeting will be held in October in Toronto, Oct. 7-12. The theme will be "Business Management Meets the Challenge of the Sixties."



EZ-A-WAY mechanical folding BLEACHERS

NEW CONCEPT IN SPECTATOR SEATING

STANDARD EZ-A-WAY FOLDING BLEACHERS

Offer you these original construction features: Square tubing; Steel understructure; Floating action — an innovation in EZ-A-WAY Bleachers; Slide support — designed to lock successive rows. EZ-A-WAY Bleachers are equipped with 4" diameter, 1½" wide non-marking wheels — in addition to the three features illustrated in the pictures to the right.

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EZ-A-WAY FOLDING BLEACHER COMBINATIONS

Seat your spectators in opera style . . . maximum comfort for premium seats . . . select colors to harmonize with your gymnasium. Cushioned opera style EZ-A-WAY Folding Bleachers offer you such outstanding features as: Foam rubber seat and back rest pads covered with desirable vinyl fabric backed covering . . . Seat or back rest easily replaced if damaged . . . Individual seat delineation . . . Alternate seat colors if desired . . . Aisles as required . . . Easily folded away and prepared for occupancy.

OMEGA EZ-A-WAY — ELECTRICALLY OPERATED

A winning combination in spectator seating . . . electricity does the work with these new modern bleachers — the last word in comfort, capacity, convenience . . . all the design features of the regular EZ-A-WAY plus cushioned seats in color to harmonize with your gymnasium surrounding, plus OMEGA drive . . . the ultimate in mechanical folding bleacher operation. Simple and easy operation, no complicated installation . . . any school personnel can operate them . . . no adjustments needed for life-time of installation.

MOBILE EZ-A-WAY BLEACHERS (2 TYPES)

Fine mobile bleachers available . . . ROLLOMATIC is equipped with heavy duty large ball bearing wheels. Installations up to 15 rows high operate successfully. "Rollomatic" features oscillating axle dual wheel 4" diameter casters that roll easily over rough floors . . . rubber tread will not damage wood floors. Bleachers raised and lowered without side "drifting" — a feature only in Berlin Chapman "Rollomatic" bleachers. Also available are A-3 type mechanical hand jacks.

EZ-A-WAY FORWARD FOLD GYM SEATS

Provide maximum use of all available floor space — safe . . . modern . . . convenient. EZ-A-WAY Forward Fold Delayed Action Gym Seats cannot overturn — positive floor attachment in every position. EZ-A-WAY Gym Seats are easy to use . . . swinging rear riser board offers plenty of toe space for opening . . . gym seats can be locked in open or closed positions. When closed they form a wall to separate a balcony into a modern room — for gym classes, dances or any other school activities.

Write for complete details and engineering data for your requirements.

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NORTHERN MAPLE

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Arch., Ed. W. Kress — Installer, Best Floor Co.

Don't Just "Wish"

Don't turn green with envy every time you see that latest "Big Ten" Gym in Columbus, O. in a magazine or on TV!

It's floored with J. W. Wells' famed DIAMOND HARD Northern Maple, sure! — But so is this High School Gym in California. (And hundreds more.)

Tell 'em Facts!

Call it "multi-purpose" — Combine gym and auditorium and you may have to remind them — "Most of the time it will be a gym." Lay any of those thin-skinned coverings on bare concrete and it's still dead — tough on the kids — mincemeat for those PTA'ers in "spikes" — sad substitute for J. W. WELLS DIAMOND HARD Northern Maple.

Point Out Savings

Remember too, DIAMOND HARD Northern Maple in 2nd and 3rd grade is just as lively, undentable as clear-grained 1st grade — costs 10% to 50% less.

And if you need a money-maker to help pay for it — look into community roller skating — as many other schools have. (What beats Maple for skating?)

**WRITE FOR
"Money-Making Gym Floors"**

**J. W. WELLS
LUMBER COMPANY**

Menominee 5, Michigan

THE SCHOOL SCENE

(Continued from page 6)

30-minute, duty-free lunch period, classified help from the community have been hired to supervise the cafeteria and playground. Students receive an extra 15 minutes per day, or an hour and a quarter per week, of instruction. Teachers are relieved of noon duty in exchange of additional teaching time.

The board believes that this is a sound step in upgrading the school program by (1) increasing the length of the school day, (2) improving teacher morale, and (3) making better utilization of teachers' time by relieving them of clerical duties.

INSTRUCTION IMPROVEMENT PLAN

Recent public criticism of school curriculums has prompted many boards to act hastily and in panic by trying to change overnight the entire order of the education curriculum in their district. But in Westchester, Ill., a long-range plan has been improvised by Superintendent J. K. Beamish that calls for a studied evaluation and comparison of the curriculum in the Westchester schools.

The plan proposes to improve instruction in the district's school system by controlling better the topics to be studied in a sequential order over a five-year span. It calls for research and facts about the learning process and for better methods and techniques of instruction.

The prime recommendation made is that comparative studies be made of the elementary graduate with relation to his strengths and weaknesses. Creating a correlated study of the June graduates with relation to their potential capabilities in learning at the high school level should provide information helpful in evaluating the instructional program. An exploratory study of the achievement results of other grades by use of prominent tests was adopted as a result of the study.

STUDENT SCIENTISTS GROUP

A new organization for science-minded students has been reported by Robert H. Carleton, secretary of the National Science Teachers' Association (N.E.A. affiliate).

Known as the Future Scientists of America, the organization will aim to meet today's need and tomorrow's demand for more scientists by developing a reserve supply at the high school level. The organization will seek to co-operate with all existing youth programs in science, such as state junior academies of science, talent searches, summer institutes, and similar endeavors.

READING FOR RETARDED

Gloversville, N. Y. In order to improve the reading ability of students, the school system has provided a threefold program beyond the regular elementary school reading program. During the summer, a reading program is operated for pupils of incoming seventh and eighth graders who are at least one year retarded but who have an average or above average intelligence. These pupils are recommended by their teachers, administrators, and guidance counselors, and tested by the school psychologist.

All seventh- and eighth-grade English classes have two sections, one of which is devoted solely to reading. In the tenth grade, a flexible, non-credit reading course is offered those students still retarded in reading, but are of average or above average ability.

After careful screening, a limited number of students who have passed through the classes of special education for the

educable mentally retarded, are scheduled for regular tenth-grade home rooms and a non-academic program. In a half day they attend classes in industrial arts, homemaking, glovemaking, art, and typing. The other half-day is a work day for the students. The program has given new life and hope to the special education program.

CINCINNATI BUDGET INCREASE

The Cincinnati, Ohio, board of education has approved a budget of \$30,423,000 for the fiscal year 1961. The total expenditures provided in this budget represent an increase of \$798,000 over the year 1959-60. Among the factors producing the increase are (1) an anticipated increase of 1800 in pupil population for 1960-61; (2) proposal for increases in the salaries of professional and civil service staffs in 1961; (3) an increase in the number of staff members to maintain class sizes; (4) an extension of the work year for administrative and supervisory employees; and (5) a substantial increase in the number of teachers for physically and mentally handicapped children. If the budget is accepted as submitted and there is a tax duplicate of \$1.725 billion, it will be necessary to renew the expiring levy of 6.89 mills and increase it to 8.00 mills to bring the budget into balance in 1961.

REDUCE FIRE RATES

The New York State Insurance Department has approved a reduction in fire insurance rates, amounting to more than \$1,000,000 a year, for institutional properties, including schools of the state. The rate reductions which became effective September 19, were made possible by the favorable experience for the affected classes in the year 1954 to 1958. Schools classified as masonry-walled construction and under municipal fire protection, and those classified as frame and masonry-walled and not under municipal fire protection each get a 20 per cent reduction. Frame-protected schools receive 10 per cent reduction. Fire rates on fire-resistant buildings and contents were not changed, except that the stop rate was reduced from 3.00 to 2.50.

AASA REGIONALS ANNOUNCED

President Forrest E. Conner has chosen "Education for the Challenges of Tomorrow" as the theme for the 1961 regional conventions, to be held in San Francisco, February 25-28; St. Louis, March 11-14; and Philadelphia, March 25-28.

Mr. F. H. Sanford, of Austin, Tex., will speak at the first general session in San Francisco, on mental health. Analyzing Dr. Sanford's statements will be Ralph W. Tyler, of Stanford, Calif.

The second general session on Saturday night, in San Francisco will be devoted to the subject of economics; the third session will take up philosophy; the fifth session, political science and government; the sixth session, social anthropology.

At the St. Louis session, the first session will take up social anthropology; the second session, economics; the fifth session, political science.

At the Philadelphia session the same subjects are on the agenda.

FORD AID FOR RURAL SCHOOLS

The Ford Foundation, New York, N. Y., has announced financial support for the nation's rural schools. Grants totaling \$282,945 were made for three projects; The Catskill area project in small school design, \$135,000, which includes 27 schools in Delaware, Otsego, and Chenango coun-

(Concluded on page 43)

THE SCHOOL SCENE

(Concluded from page 42)

ties, N. Y.; The Rocky Mountain area project for small high schools, \$75,145, which includes 23 secondary schools in Colorado; The Educational Resources project, \$72,800, which covers 150 schools in Vermont and Maine and is based at Goddard College, Plainfield, Vt. The objective is to demonstrate ways in which the advantages of the small school can be used to create new and practicable patterns for the improvement of teaching and learning. Including the present grants, the three projects have received during the past four years a total of \$827,833 from the Foundation and the Fund for the Advancement of Education.

SEVEN-POINT PROGRAM

The Los Angeles, Calif., board of education has considered the adoption of a proposed seven-point program, designed to strengthen the instructional program in the junior and senior high schools. The proposal, the result of a three-year study by a special committee, will result in changes in the organization of the school day and stiffening of graduation requirements. The changes provide for the following:

1. Expansion of the school day to include six periods of instruction.
2. Issuance of a senior high school "descriptive" diploma.
3. Expansion of programs for talented pupils.
4. Issuance of a certificate to students not meeting basic graduation requirements.
5. Stiffening of graduation requirements for most pupils.
6. Designation of "superior" work on diplomas of outstanding pupils.
7. Trimming of the traditional physical education program.

The "descriptive" diploma would show the kind of program followed by each pupil. In addition, each graduate would be given a supplementary document, a wallet-size photostat of the diploma, which would indicate to employers where additional material regarding the student may be secured. Another change would be an indication by means of seals of the quality of work done by students during their high school year. A document known as a "certificate" would be given to students who have met some, but not all, of the graduation requirements.

MERIT PAY RESOLVED

Merit pay for teachers, a controversial issue in education, was approved by the resolutions committee of the New York State Council of Superintendents, at its meeting September 19, in Saranac. The committee recommended that the Council formally recognize the principle of "compensating outstanding quality of teaching" and that it urge its members to seek ways and means of implementing the principle. Chairman Theodore F. Reusswig said that it is time for superintendents to stand up and be counted on the issue.

SCHOOL BONDS

School bonds sold during October, 1960, amounted to a total of \$144,255,300. The largest issues were in California, \$17,695,000; New York, \$16,145,000; and Washington, \$35,419,000. The bond yields in 20 representative cities were 3.27 per cent and 3.51 per cent.

this 18-row telescoping gym seat installation is operated MANUALLY



New Safway telescoping gym seat installation at Menomonee Falls High School, Menomonee Falls, Wis.; architects—Kloppenburg & Kloppenburg, Milwaukee. Seating set-up shown is duplicated on the opposite side of the gym (total capacity 2,370).

SAFWAY

TELESCOPING GYM SEATS

quickly opened to any required number of rows or closed to clear the floor

EASY OPERATION of Safway telescoping gym seats means lower handling costs every time you change your set-up. With Safway's straight-line tracking, manual operation is practical for most installations—even the big 18-row bleacher shown above.

Other Safway features are extra-large wheels, non-sticking nylon glides, fewer moving parts and less metal-to-metal friction.

SPECTATOR COMFORT—Ample foot and knee room; inclined seats; good view.

COMPLETE SAFETY—For spectators, gym users and maintenance personnel.

FLOOR PROTECTION—Wheels roll in separate tracks to prevent grooving.

GOOD LOOKS—Seats nest into a vertical cabinet. Rich Golden Oak finish.

COMPLETE LINE—Recessed, wall-attached and portable types.

MOTORIZED OPERATION—Available for larger installations if desired.


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WORD FROM WASHINGTON

(Continued from page 33)

including their key people, are not necessarily encouraging creativity, according to accumulating evidence, he states, disclosing:

For example, in a study by Frank Jex at the University of Utah, a group of high school science teachers were tested with an "ingenuity or creativity" battery when they came for graduate study. Their ingenuity scores were correlated with their principals' ratings of their over-all teaching ability made during the previous year. The correlation was —.38. This result suggests that the present academic system may be looking with some disfavor upon teachers who show certain ingenuity and creativity characteristics, even though such teachers might possibly be developing ingenuity traits in their students more than other teachers do.

Drawing on the Minnesota Studies of Creative Thinking in the Early School Years, a paper by E. Paul Torrance, Director of the University of Minnesota's Bureau of Educational Research, suggests that the following variables may significantly affect the flow of creative thinking in children:

1. The composition of the group in which the thinking takes place (homogeneous or heterogeneous)
2. Competition
3. The teaching of principles for thinking up ideas (e.g., in product improvement tasks, the well-known Osborn principles (1957) of combining, adding to, and the like)
4. The nature of the "warm-up," instructions (quantity vs. quality) and practice (unevaluated vs. evaluated practice)
5. Rewarding creative thinking (treating questions with respect, treating imaginative ideas with respect, encouraging and evaluating self-initiated learning, etc.)
6. Activities which help children to value their own ideas (e.g., encouraging the "idea-trap" habit)
7. Activities to increase sensitivity to environmental stimuli
8. Giving information about the creative process
9. Dispelling the sense of awe of masterpieces
10. Creating emergencies or necessities for creative thinking

The Teacher's Task

The above studies are only a small sampling of the research now under way on the nature and identification of creative talent and the educational factors affecting its growth. Teachers who wish to cultivate creative thinking abilities in their pupils will find it worthwhile to keep informed on the new knowledge being revealed by the growing body of research in this field. Doing so will provide them with many useful ideas for helping each student to discover and use his own unique gifts and for supplying the environment and experiences that will release the creative potential of his students.

Not only should the teacher be on the lookout for new findings that will deepen his understanding of creative abilities but he needs to be on the watch for the signs of creativity his pupils display outside the school as well as inside.

It is important, stresses Romaine P. Mackie, Chief of the U. S. Office of

Education's Services for Exceptional Children and Youth, for the teacher to find out what kind of activities a pupil engages in outside school hours since these will often furnish the clues to his interests and drives. When these are known, she points out, the teacher can use them as springboards to further learning, selecting the subject matter, experiences, and developmental tasks that will enhance their growth.

Warmly human, understanding, adaptable, sympathetic, and tolerant are some of the attributes Charles E. Bish, who heads the National Education Association's Project on the Academically Talented Student, uses to describe the kind of teacher who is most apt to be successful in drawing out creativity in his students. Besides being constantly on the lookout for creativity, in his view, such a teacher should be sensitive to it and appreciative of it when it appears.

All too often, Dr. Bish declares, "the teacher may feel somewhat threatened by the youngster who is creative and force upon him a type of thinking (described by Guilford as 'convergent') which confines him to a single 'right' answer instead of allowing try-out responses." Within the class, he therefore emphasizes, the teacher should devise an atmosphere in which his pupils are given the "psychological freedom" and the security to be creative. As he describes it, the teacher's relationship to his pupils should be permissive, providing an encouraging environment in which the students can feel free to ask all kinds of questions, express their thoughts, try new ideas, and progress at their own pace.

Agreeing that pupils tend to think creatively in an atmosphere where they feel free to make mistakes and where they gain rewards for being willing to participate, Robert W. Scofield, Associate Professor of Educational Psychology at Oklahoma State University, considers that to establish an emotional climate in the classroom conducive to creativity the teacher himself must feel free to encourage exploration, curiosity, varied approaches to problems, and above all trial-and-error experiences by his pupils. His article in the October, 1960, issue of *Educational Leadership* suggests several procedures for teacher use in establishing a supportive atmosphere for aiding creative efforts.

Among the methods being suggested by experienced educators to accommodate and encourage creativity in the school are programs planned around the genuine needs and interests of individual students, independent study with opportunities for concentration in selected areas of individual interest and competence, differentiated assignments to stimulate children to achieve in relation to their abilities, a flexible class

schedule to allow time for reading, study, and research, open-ended experiments that get away from the cook-book type of directions, a problem-oriented approach to learning.

School Organization

While most of the aforementioned ideas can be carried out within the existing structure of the school, some other proposals would so drastically reorganize instruction, restructure scheduling, change staffing patterns, and alter educational facilities as to require school board action as well as considerable planning on the part of the school staff to put them into effect.

J. Lloyd Trump, now Associate Secretary of the National Association of Secondary-School Principals, for example, believes that it will be difficult, if not almost impossible to achieve such objectives as developing independent responsibility for learning, inquiring minds, and ability to solve problems (in contrast to today's emphasis on memorizing the facts) unless there are fundamental changes in the way schools are organized. Instead of organizing all the instruction in standard-sized classes, he deems it important to consider the job to be done and to vary the class size in relation to purpose and content.

The average students would continue to spend at least 30 hours a week on the regular subjects, as they do now

in the secondary school, but only 18 hours a week would be spent in class groups, and, of these, 12 hours would be given over to large-group instruction (100 or more students) and six hours to small group discussions (12 to 15 students). Many students would spend even larger amounts of time than now because educational facilities would be made available to them more hours per day, more days per week, and more weeks per year.

The average student would spend 40 per cent of "is time (at least 12 hours weekly) in individual study, working independently in libraries, laboratories, shops, resource centers, etc., but not in study halls. "Instead of the conventional highly structured class situation which inhibits the growth of independence," Dr. Trump emphasizes "there must be places where students can exercise creativity and develop independence in learning."

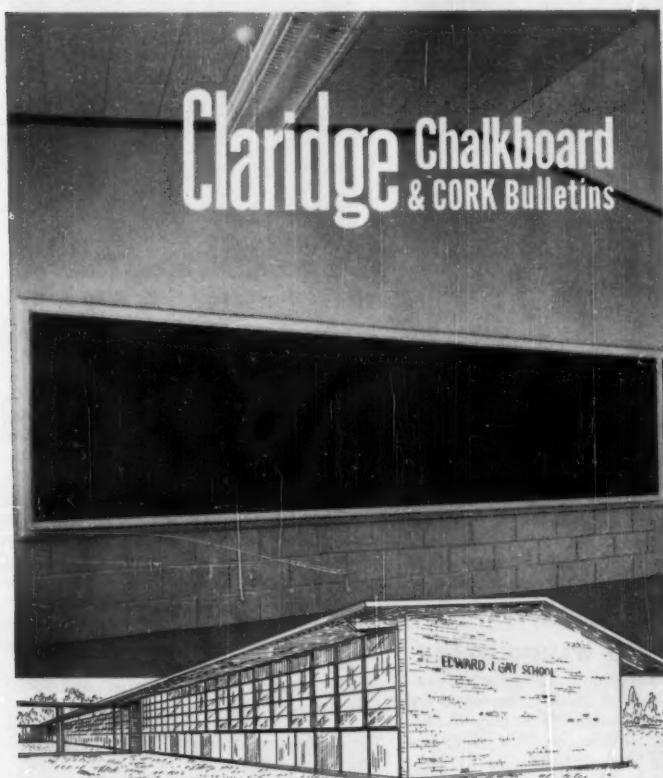
The Superintendent's Role

How can the school administrator encourage children and teachers to be creative? Replies Melvin W. Barnes, Superintendent of Schools, Oklahoma City, Okla.: "An administrator fosters creative teaching and learning by living and working creatively. In the measure that he relies on pat answers and unchanging policies he promotes humdrum, unimaginative teaching. To the extent

that he is flexible and values the individuality in persons, he fosters creative teaching and learning. Children can learn best with teachers who like the new, the different, the changing."

In the opinion of Forrest E. Conner, Superintendent of Schools in Saint Paul, Minnesota, and currently President of the American Association of School Administrators: "Superintendents can do most to encourage creative thinking by providing teachers in service with an adequate background in this challenging area and then encouraging them to do their best. Perhaps the best way to start is in workshops that are led by consultants who are familiar with their subject."

Reports Robert S. Gilchrist, Superintendent of Schools, University City, Missouri: "As the administrator analyzes the kind of education needed in America, he will recognize that individual initiative is important. He will sense that a person can't really be completely healthy nor happy unless he has creative outlets. He will further realize that our society is strong only to the degree that our individual citizens are successful and happy because their personalities have had an opportunity to come to full fruition. He will, therefore, be eager to give leadership to the development of a school environment which fosters creativity on the part of children and teachers." ■



Edward J. Gay School, Plaquemine, La.

Architects: Post Harelson, Baton Rouge, La.

DECEMBER, 1960

(For more information from advertisers, use the postcard on page 49)

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NEWS of PRODUCTS for the Schools

FIBERGLASS ASTRO-DOMETTE

For space-age science teaching, there are now astronomical domes for high schools and junior colleges, fabricated on an assembly basis by Astro-Dome, Inc., Canton, Ohio. The fiberglass domes are available in sizes of eight, 10, and 12 ft. outside diameters. Because the sections of the mod-



For Astronomy Classes

estly priced Astro-Domes are stamped or molded, components are uniform and interchangeable. A 10-ft. fiberglas unit weighs about 500 lb. Each dome is equipped with an "up and over" shutter system and is manually rotated. Electric drives are available as an accessory. Send for a free brochure.

(For Further Details Circle Index Code 0199)

PACKAGED LAMINATED DOORS

With the purchase of Logue Woodworkers, producers of Con-Dor-Lux doors, the Formica Corp., Cincinnati, Ohio, is offering complete door packages of high-quality construction and easy installation. Surfaced in any desired color, pattern, or wood-grain plastic laminate, the doors come completely pre-mortised to hardware specifications, ready to hang. The doors carry a full five-year guarantee and may be installed after completion of interior painting and floor finishing.

(For Further Details Circle Index Code 0200)

DUAL-HEIGHT WATER COOLER

A dual-height, wall-mounted electric water cooler, with convenient fountains at both adult and child levels, has been



Off-the-Floor Design

introduced by Haws Drinking Faucet Co., Berkeley, Calif. The compact "Hi-Lo" unit combines an off-the-floor cooler with a low level attachment. Plumbing and electrical connections are concealed within slender, enameled steel cabinets of hammertone gray. The shielded, push-button, chrome-plated brass bubblers, and the smooth contours of the stainless steel tops are designed to prevent splashing and for easy cleaning. An optional "glass filler" accessory may be mounted directly behind the adult-level bubbler. The cooler comes in Model HWT-13, delivering 13 gal. per hour, or Model HWT-6, delivering 6.3 gal. per hour.

(For Further Details Circle Index Code 0201)

COMMUNICATION UNIT

A new three-way communication system has been designed for schools by the Cincinnati Time Recorder Co., Cincinnati 6, Ohio. The combination provides telephone



Includes Program Clock

connections between the principal's office and individual classrooms, a public address system with speakers for each room, and clocks with signals for timing class periods. Send for further information.

(For Further Details Circle Index Code 0202)

LOW-COST SCHOOL CONSTRUCTION

Construction costs of Bonlee-Goldston Consolidated High School in Chatham County, N. C., have been reduced to only \$6.45 per square foot by the use of long-steel M-deck sections made by the R. C. Mahon Co., Detroit, Mich. Fast erection of the deck, which combines roof structure and finished ceiling in one unit, cut construction time by more than 30 per cent. Providing 80,000 sq. ft. for 480 students, the 16-classroom school includes vocational shops, gymnasium, dual-purpose cafeteria, kitchen, pantry, principal's office, teachers' room, general offices and storage areas.

(For Further Details Circle Index Code 0203)

SHOWERS AND WASHFOUNTAINS

Group shower equipment and washfountains in a variety of harmonizing colors are offered for schools by the Bradley Washfountain Co., Milwaukee, Wis. Semi-circular stainless steel wall-mounted showers, in models for two or three students can be



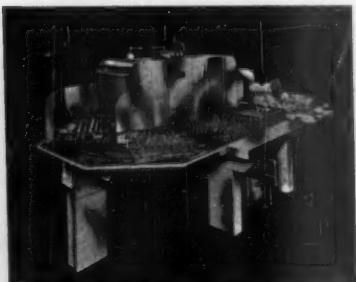
Group Shower Heads

mounted at any height. The units, 38 in. long and 11 in. deep, include a panel with cornice and cover, adjustable shower heads, control valves with interior piping, and soap trays. Stainless steel column showers for five students are also available. The 36 in. semi-circular washfountain with "floating" foot control, serves three students. The bowl, of 85 per cent marble and 15 per cent binder, is reinforced with heavy steel bars. Send for further information.

(For Further Details Circle Index Code 0204)

FOUR-STAGE DISHWASHERS

Two four-stage stainless steel dishwashers, for institution kitchens which serve up to 1350 persons per meal, are the 18-ft. Model FT-18 flight type and Model RM-86 Rack-O-Matic, a 13½ ft., multiple tank circular system, by the Hobart Mfg. Co., Troy, Ohio. The 18-ft. unit features three six-ft. sections for washing and rinsing,



Needs Less Floor Area

loading and scraping, and drying and unloading. The flight link and the circular conveyors, both of stainless steel, move at an adjustable speed from four to seven ft. per minute. The smaller model has a 22 in. recirculating dish scraper and a 64-in. section for power washing and rinsing. Optional equipment includes a built-in food waste disposer and loading shelf for racking.

(For Further Details Circle Index Code 0205)

STADIUM FLOODLIGHTS

The new Lumitor quartz-iodine floodlight by the Wide-Lite Corp., Houston, Tex., projects a vertical beam spread of eight degrees and a horizontal beam spread of 100 degrees. Available in 500 and 1500 watt models, the lamp features a built-in

CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION

level and an aiming device. The sturdy lamp has a one-piece cast aluminum body with deep cooling fins, stainless steel hardware, $\frac{1}{4}$ in. tempered glass lens, and an aluminum alzak reflector. The 500 watt lamp operates on 120 volts, with an output of 10,500 lumens; and the 1500 watt lamp operates on 277 volts with an output of 33,000 lumens. Both models mount on standard $1\frac{1}{4}$ in. pipe masts. They are recommended for athletic field lighting.

(For Further Details Circle Index Code 0206)

PORTABLE FOLDING TABLE

A new line of portable folding tables for schools and institutions is offered by the Schieber Mfg. Co., Detroit 39, Mich. The tables, which store compactly, come in round, hexagonal, and square shapes, 48 or 60 in. across the center. Table tops are seven ply wood with decorative, washable formica surface in optional colors. The



Comes in Three Shapes

undersides are finished with waterproof plastic backing sheet. Four tubular metal legs, with cross supports, curve outward to stabilize the table when opened or folded. Two crutch-tipped center legs fold down firmly on the floor to prevent the table from shifting. Mark-proof neoprene swivel casters eliminate the need for table trucks.

(For Further Details Circle Index Code 0207)

AUTOMATIC TYPEWRITER

Letter writing costs are cut by 85 per cent with the new Royaltyper, which automatically types multiple copies at 135 words a minute, or 20 letters an hour, as compared with 20 letters a day by a competent typist. A master tape, typed manually on the same machine, is easily fed into the typewriter, eliminating a separate punch. The narrow, $3\frac{1}{2}$ -in. wide, heavy paper tape, cut to any length can be filed and re-used many times. Two models are the file-tape, using the "flat-pack" tape; and the spool-tape model, with all the advantages, except paragraph selection, of the slightly more expensive file-tape model. Both models, which consist of a tape reader, an integral punch, and a new electric typewriter, are sold or leased by the Royal McBee Corp., Port Chester, N. Y.

(For Further Details Circle Index Code 0208)

QUARTER-TRACK TAPES

A language tape system with a quarter-track design is offered by the Dictaphone Corp., New York 17, N. Y. The Dictalab provides for four, instead of two, recording



Cuts Recording Errors

channels on the tape, making it impossible for students to accidentally record over the instructor's voice. When the tape moves from left to right, track one carries the master voice and track three the student response. When reversed, tracks four and two are similarly used. The complete system includes a teacher console or automatic control center, and individual sound-protected booths for students. Touch buttons control the tape. Three kinds of student installations are available: audio-passive, listen-respond, or listen-respond-record.

(For Further Details Circle Index Code 0209)

(Concluded on page 48)

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Kitchen committees, social groups, attention! Direct-from-factory prices — discounts up to 40% — terms. Churches, Schools, Clubs, Lodges and all organizations. Our new MONROE 1961 FOLD-KING FOLDING BANQUET TABLES are unmatched for quality, durability, convenience, handsome appearance. NEW—completely automatic lock on pedestals and legs, "snap" them rigidly in place. New pedestal and frame construction. 68 models and sizes. Ask for our beautiful new catalog with color pictures of Folding Tables, Folding Chairs, Table and Chair Trucks, Portable Partitions, Bulletin Boards, Folding Risers and Platforms. Send to:

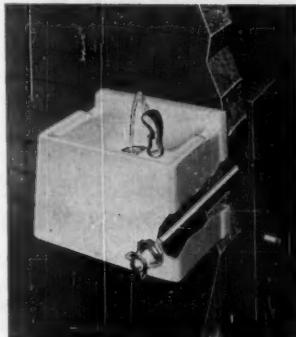
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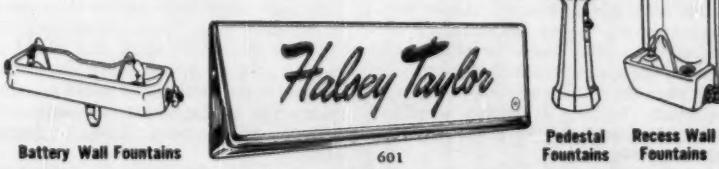
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Patent Pending

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This new Halsey Taylor All-Climate Outdoor Fountain has exclusive all-weather features for outdoor use. Automatic frost-proof supply valve and drain assembly provide complete drain-back into cabinet in rear of wall. Valve extensions can be made to exact wall thickness. All exposed fittings chromium plated.

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The Halsey W. Taylor Co., Warren, O.



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H. THOMAS JAMES

The organization of a school board; role of the individual member; the problem of staff relationships; relationship between the board and the superintendent; the procedure for choosing a superintendent; criteria for appraising his competence; powers and responsibilities of the board, as defined by California law. *Illustrated. \$3.00*

Order from your bookstore, please

**STANFORD UNIVERSITY
PRESS**

News of Products . . .

(Concluded from page 47)

SCHOOL BUS PA SYSTEM

For safer operation of school buses, the DuKane Corp., St. Charles, Ill., has introduced a "hands free" public address system using a transistorized four-watt mobile amplifier and a close-talking microphone which operates on any 12-volt d.c. power source. The driver, without removing his



"Hands Free" Microphone

hands from driving controls, merely leans toward the microphone and makes his announcements either inside or outside the vehicle. The system is circuitied to operate only when the ignition switch is turned on. Equipment includes a compact amplifier and loudspeaker horns for inside and outside installation.

(For Further Details Circle Index Code 0210)

FIRE-RESISTANT DOOR

A fire door with high pressure plastic laminate faces has been developed by the United States Plywood Corp., New York 18, N. Y., for schools and other public institutions. Approved by Underwriters Laboratories, Inc., the door combines fire protection with pleasing appearance and easy maintenance. Coated with Micarta, the door is offered in mahogany, oak, maple, and walnut print grainings. In addition to its easy, damp-cloth maintenance, the door is resistant to solvents, chemicals, heat, cold, dampness, and staining agents.

(For Further Details Circle Index Code 0211)

DICTION EQUIPMENT

A new line of dictation units called "Executary," has been announced by the International Business Machines Corp., Electric Typewriter Division, New York 22, N. Y. The line includes a dictating unit, a secretarial transcriber, and a combination dictation-transcriber unit. Each unit is fully transistorized and holds 14 min. of



Records on Magnetic Belt

recording on a reusable magnetic belt. A built-in erase magnet assures error-free dictation. The combination and secretarial units come complete with dual action foot control and provide a choice of earsets, either a three-way combination or a stethoscope monoset. Each unit is 11 in. wide by 9 1/4 in. deep by 3 1/4 in. high. Send for complete information.

(For Further Details Circle Index Code 0212)

PAPER CUTTERS

Two table-top paper cutters have been designed by the Douglas Homs Co., Burlingame, Calif., for printing and mimeographing departments in schools. Both models, which may be permanently mounted, include a 1/4 in. graduated side guide and a back guide, removable for cutting extra long sheets. The easy-to-pull main lever, automatic safety device, and paper press permit safe, accurate operation. The steel cutter blade assures clean cut of a 300-sheet paper stack. Model 11, with an 11 1/2 in. cutting width, and Model 15, with a 14 1/2 in. cutting width, are finished in gray enamel with nickel plated operating parts. The cutting boards are surfaced in durable gray formica. Write for further details.

(For Further Details Circle Index Code 0213)

CATALOGS AND BOOKLETS

The complete line of school lockers, baskets, racks, and combination installations by **Worley & Co.**, Whittier, Calif., is described in an illustrated, 28-page catalog, Bulletin W-102. Send for a free copy. (For Further Details Circle Index Code 0214)

The **North American Philips Co., Inc.**, Hicksville, Long Island, N. Y., has announced an illustrated brochure describing the line of Norelco industrial sound systems and components, for use in auditoriums, sports arenas, and schools. Send for the free brochure and specification sheets.

(For Further Details Circle Index Code 0215)

Send for "Fresh Air Electric Heating," a free, 40-page booklet by **Lennox Industries, Inc.**, Marshalltown, Iowa. The booklet presents the various methods of heating by electricity and demonstrates the desirability of ducted systems.

(For Further Details Circle Index Code 0216)

Send for Bulletins No. 153-D and No. 157 which describe Vacuslot, a vacuum system for cleaning large bare-floor areas in institutions, free from the **Spencer Turbine Co.**, Hartford 6, Conn.

(For Further Details Circle Index Code 0217)

CORRESPONDING CODE INDEX NUMBERS TO BE ENCIRCLED CAN BE FOUND ON THE CARDS IN THE READER'S SERVICE SECTION

MANUFACTURERS' NEWS

The **California Test Bureau** opened its new \$300,000 headquarters in Del Monte Research Park, Monterey, Calif., in September after 34 years of operation in Los Angeles. The bureau is one of the nation's oldest and largest publishers of educational and psychological test materials.

A new planetarium by **Spitz Laboratories, Inc.**, was displayed for the Astronomical League at the first pre-public showing in September. Wallace E. Frank, Spitz president, explained that Model A-3-P on display was merely the prototype of a production model that has already been ordered for eight new installations. The familiar dodecahedron outline will be replaced by a sphere, and automatic planetary motion will be a standard part of the instrument.

Construction has been started on a several thousand dollar expansion of the facilities of the **American Desk Mfg. Co.** in Temple, Tex. This will be the third expansion or major improvement to the plant facilities since the present owners took over in June, 1959. The added space will enable the company to store greater quantities of furniture.

A new plan that allows modern lighting equipment to be rented for low monthly payments has been announced by the **Westinghouse Credit Corp.**, Pittsburgh 22, Pa. Leases can include installation costs of up to 50 percent of the selling price of the lighting equipment. The lease plan, ideal for schools, is available for periods of two, three, or five years.

Beckley-Cordy's president, Joseph Sindelar, announced in November his company's acquisition of **Schoolco**, a major seating manufacturer. The **Beckley-Cordy Co.**, Chicago, Ill., one of the nation's largest school suppliers, has increased its school seating volume by several times with the purchase.

READER'S SERVICE SECTION

INDEX TO SCHOOL EQUIPMENT

The Index and digest of advertisements below will help you obtain free information, catalogs, and product literature from the advertisements and companies listed in the new products section. Merely encircle the code number assigned to each firm in the request form below, clip the form and mail it to THE AMERICAN SCHOOL BOARD JOURNAL. Your request will receive prompt attention.

Code No.	Page No.	Code No.	Page No.
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Maintenance materials		Metal folding chairs	
1211 American Bottlers of Carbonated Beverages..	35	1221 Minneapolis-Honeywell Regulator Co.....	4 & 5
Soft drink association		Temperature controls	
1212 American Playground Device Co.	44	1222 Monroe Co., The.....	47
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1213 Berlin Chapman Company	41	1223 Premier Engraving Company	7
Mechanical folding bleachers		Engravers	
1214 Claridge Products & Eq., Inc.	45	1224 Rilco Laminated Products, Inc.	39
Chalkboards, bulletin boards		Laminated wood	
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Industrial tools		Maple floors	
1216 Doerr Glass Company	4th cover	1226 Royal Typewriter Co. Div. Royal McBee.....	2
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V-Screen		Telescoping gym seats	
1218 Hillyard Chemical Company	8	1228 Shwayder Brothers, Inc..	37
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1219 Johnson Service Company	1	1229 Stanford University Press	48
Temperature controls		Guide for school board members	
		1230 Taylor Company, Halsey W.	47
		Outdoor wall fountain	

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1234	Wells Lumber Co., J. W. 42 Northern hard maple	0209	Dictaphone Corp. 47 Language tape
		0210	DuKane Corp. 48 PA system
		0211	United States Plywood Corp. 48 Laminated door
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0201	Haws Drinking Faucet Company 46 Water cooler		
0202	Cincinnati Time Recorder Co. 46 Communication system	0214	Worley & Co..... 48
0203	R. C. Mahon Co..... 46 M-deck sections	0215	North American Philips Co., Inc. 48
0204	Bradley Washfountain Company 46 Showers and washfountains	0216	Lennox Industries, Inc... 48
0205	Hobart Mfg. Co..... 46 Dishwashers	0217	Spencer Turbine Co.... 48

CATALOGS AND BOOKLETS

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Shop teachers go to school



Delta expert shows how minor adjustments can help keep tools in top operating condition, prevent delays due to breakdowns.

DELTA PM SHEETS—Parts Maintenance Instruction Sheets are included with every Delta tool delivered—contain handy tips on routine machine care in addition to exploded diagrams for easy identification of parts. PM Sheets cover Delta's 63 machines, 302 models, over 1400 accessories.

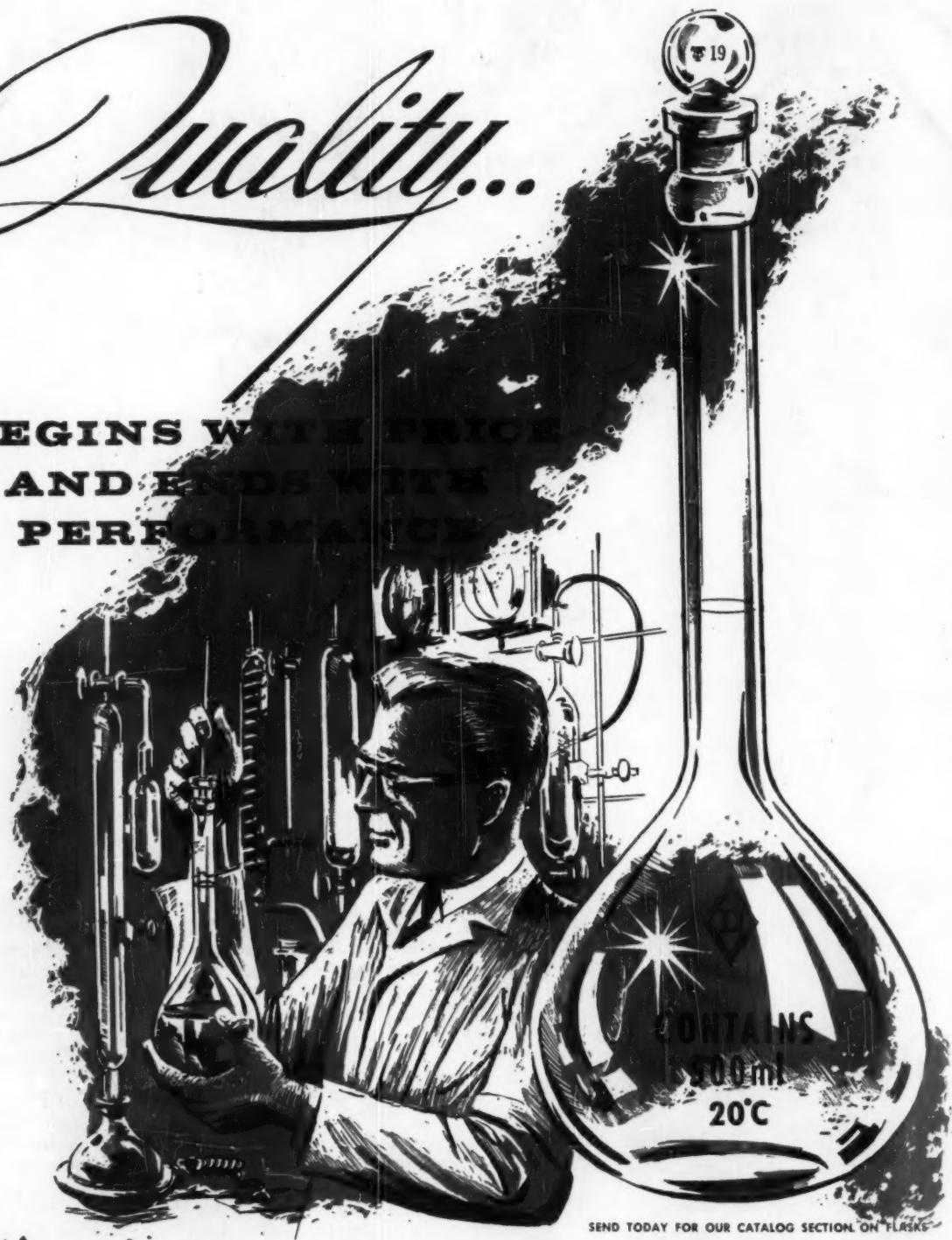
Recently Kent State University conducted a School Shop Equipment Care and Maintenance Workshop as part of a graduate program in teacher training. Delta played a key part in this program by providing the assistance of two factory-trained specialists to act as "professors of machinery." Teacher-students were instructed in normal maintenance adjustments and repairs and given the chance to disassemble and reassemble equipment. By solving actual breakdown problems, teacher-students learned tool nomenclature, schematic interpretation and ordering of parts.

This is typical of the cooperation and service Delta has rendered in serving the school field for over 31 years. Your nearest source for the finest, safest tools your students can use—the same rugged, economical tools used throughout industry—is your Delta Distributor. He's listed under "TOOLS" or "MACHINERY" in the Yellow Pages. Call him soon . . . and for FREE Delta catalog write: Rockwell Manufacturing Co., Delta Power Tool Division, 408 M N. Lexington Ave., Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Co. of Canada, Ltd., Box 420, Guelph, Ont.

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